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SERVICE MANUAL

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CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

It may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for proper disposal.

ATTENTION

IL Y A UN RISQUE D’EXPLOSION SI LA BATTERIE EST REMPLACEE PAR UN MODELE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES UTILISEES SELON LES INSTRUCTIONS DONNEES.

Il peut être illégal de jeter les batteries dans des eaux d’égout municipales. Vérifiez avec les fonctionnaires municipaux de votre région pour les détails concernant des déchets solides et une mise au rebut appropriée.

Revision history

Revision	Date	Replaced pages	Remarks

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Safety precautions

This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

Safety warnings and precautions

Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:

⚠ **DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠ **WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠ **CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

Symbols

The triangle (△) symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.

General warning.

Warning of risk of electric shock.

Warning of high temperature.

⃠ indicates a prohibited action. The specific prohibition is shown inside the symbol.

General prohibited action.

Disassembly prohibited.

● indicates that action is required. The specific action required is shown inside the symbol.

General action required.

Remove the power plug from the wall outlet.

Always ground the copier.

1. Installation Precautions

⚠ WARNING

- Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current. .....

- Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities. .....

⚠ CAUTION:

- Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury. .....

- Do not install the copier in a humid or dusty place. This may cause fire or electric shock. .....

- Do not install the copier near a radiator, heater, other heat source or near flammable material. This may cause fire. .....

- Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance. .....

- Always handle the machine by the correct locations when moving it. .....

- Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury. .....

- Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention. .....

- Advice customers that they must always follow the safety warnings and precautions in the copier's instruction handbook. .....

2. Precautions for Maintenance

⚠WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly.
- Always follow the procedures for maintenance described in the service manual and other related brochures.
- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits.
- Always use parts having the correct specifications.
- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident.
- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully.
- Always check that the copier is correctly connected to an outlet with a ground connection.
- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock.
- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight.
- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly.

⚠CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections.
- Use utmost caution when working on a powered machine. Keep away from chains and belts.
- Handle the fixing section with care to avoid burns as it can be extremely hot.
- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures.

- Do not remove the ozone filter, if any, from the copier except for routine replacement. .....

- Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself. .....

- Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item. .....

- Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks. .....

- Remove toner completely from electronic components. .....

- Run wire harnesses carefully so that wires will not be trapped or damaged. .....

- After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. .....

- Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary. .....

- Handle greases and solvents with care by following the instructions below: .....
  · Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
  · Ventilate the room well while using grease or solvents.
  · Allow applied solvents to evaporate completely before refitting the covers or turning the power switch on.
  · Always wash hands afterwards.

- Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc. .....

- Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately. .....

3. Miscellaneous

⚠WARNING

- Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas. .....

- Keep the machine away from flammable liquids, gases, and aerosols. A fire or an electric shock might occur. .....

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1-1-1 Specifications

Document Finisher

Item		Specifications
Type		Floor model
Number of trays		Three tray
Paper weight		45 to 300 g/m^2
Tray capacity	**Main Try (Try A)**	A3, B4, Ledger, Legal, 8K: 1500 sheets A4, A4R, B5, Letter, LetterR,16K: 4000 sheets A5R, B6R,Statement R:500 sheets
	Sub Try left (Try B)	A3, B4, Ledger, Legal, 8K A4R, LetterR A4, B5,Letter, 16K:200 sheets
	Sub Try right (Try C)	LetterR: 350 sheets(35-70 sets) A4,A4R, B5,B5R,A6R,Letter,Letter R, 16K:100 sheets
Stapling capacity Paper weight 90 g/m^2 or less		A3, B4, Ledger, Legal, 8K: 30 sheets(80 g/m^2) A4, A4R, B5,Letter,Letter R, 16K : 65 sheets(90 g/m^2) 70 sheets(64 g/m^2)
Power source		Electrically connected to the machine
Dimensions (W × D × H)		607.2 ×668.5 ×1061.3 mm 23 29/32 × 26 5/16 × 41 25/32”
Weight		Approx. 40 kg / Approx. 88.2 lb or less

Center-folding unit (option)

Item		Specifications
Foldable sizes		A3, B4,A4R, Ledger, Legal,LetterR,8K
Foldable number of sheets	**Center-folding**	Center-folding 60 to 90 g/m^2 : 16 sheets 91 to 120 g/m^2 : 13 sheets Centerfold-stapling 60 to 90 g/m^2 : 5 sheets 91 to120 g/m^2 : 3 sheets 121 to 256 g/m^2 : 1 sheet
	Tri-folding	60 to 90 g/m^2 : 5 sheets 91 to120 g/m^2 : 3 sheets
Maximum number for storage	**Center-folding**	5 or less copies in a set: 30 sets 6 to 10 copies in a set: 20 sets 11 to 16 copies in a set: 10 sets
	Tri-folding	1 or less copies in a set: 30 sets 2 to 5 copies in a set: 5 sets
Paper weight	**Center-folding**	60 to 256 g/m^2
	Tri-folding	60 to 120 g/m^2

Mail box (option)

Item	Specifications
Number of trays	7 trays
Paper size	A3, B4, A4, A4R, B5, B5R, A5R, Folio, Ledger, Legal, Letter, LetterR, statementR, 8K, 16K, 16KR
Maximum number for storage	A3, B4, Folio, Ledger, Legal 60 to 105 g/m2: 50 sheets 106 to 163 g/m2: 25 sheets
	A4, A4R, B5, B5R, A5R, Letter, LetterR, statementR, 8K, 16K, 16KR 60 to 105 g/m2: 100 sheets 106 to 163 g/m2: 50 sheets
Dimensions	510 (W) x 400 (D) x 470 (H) mm 20 1/16” (W) x 15 3/4” (D) x 18 1/2” (H)
Weight	10 kg or less/22 lbs or less

Punch unit (option)

Item		Specifications
Tray capacity Main Try (Try A)	**When not stapling**	A3, B4, Ledger, Legal,Statement R, Folio, A4, A4R, B5, B5R, Letter, LetterR,12×18",8K,16K,16KR
Paper weight		45 to 300 g/m^2

NOTE: These specifications are subject to change without notice.

1-1-2 Parts names

(1) Document Finisher

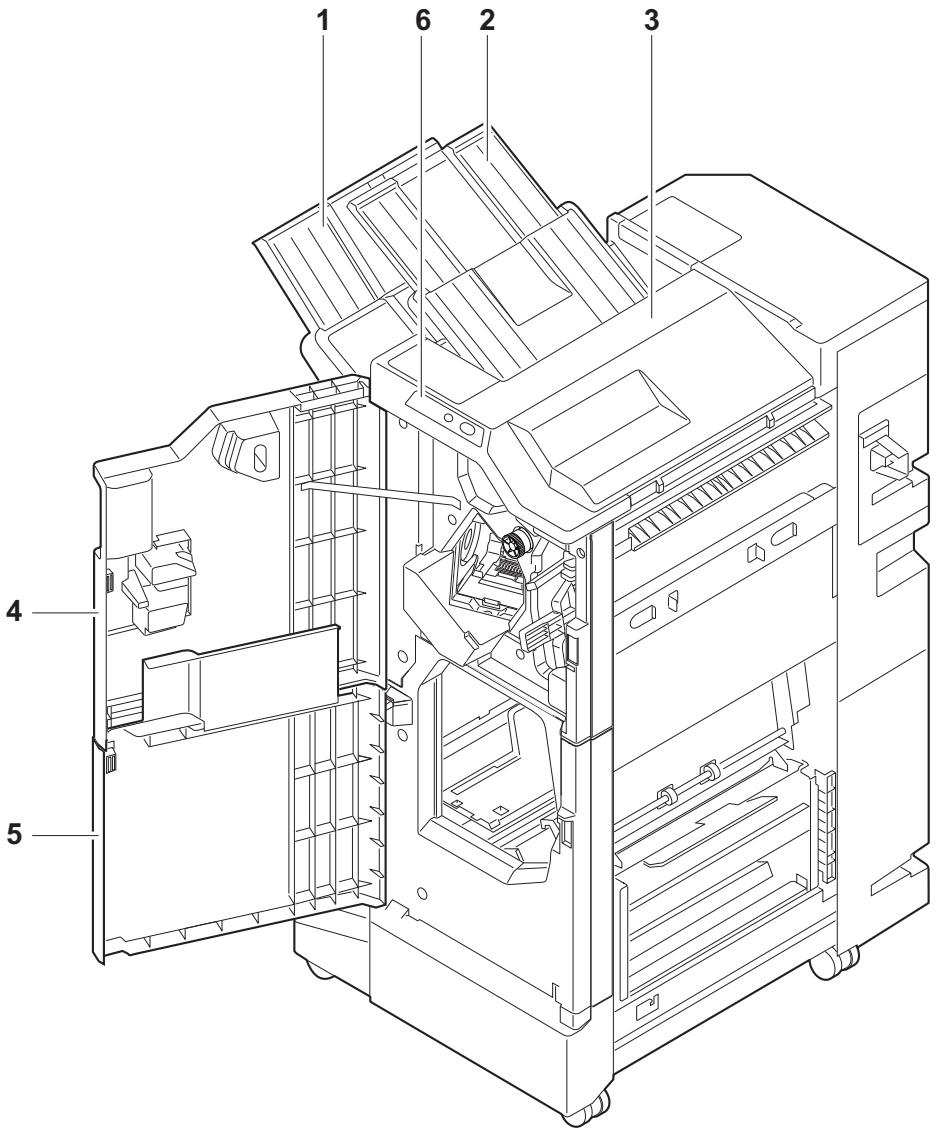

Figure 1-1-1

1. DF Main tray(tray A)
2. DF left sub tray(tray B)
3. DF right sub tray(tray C)
4. DF upper front cover
5. DF lower front cover
6. DF operation panel

(2) Center-folding unit,Mail box(option)

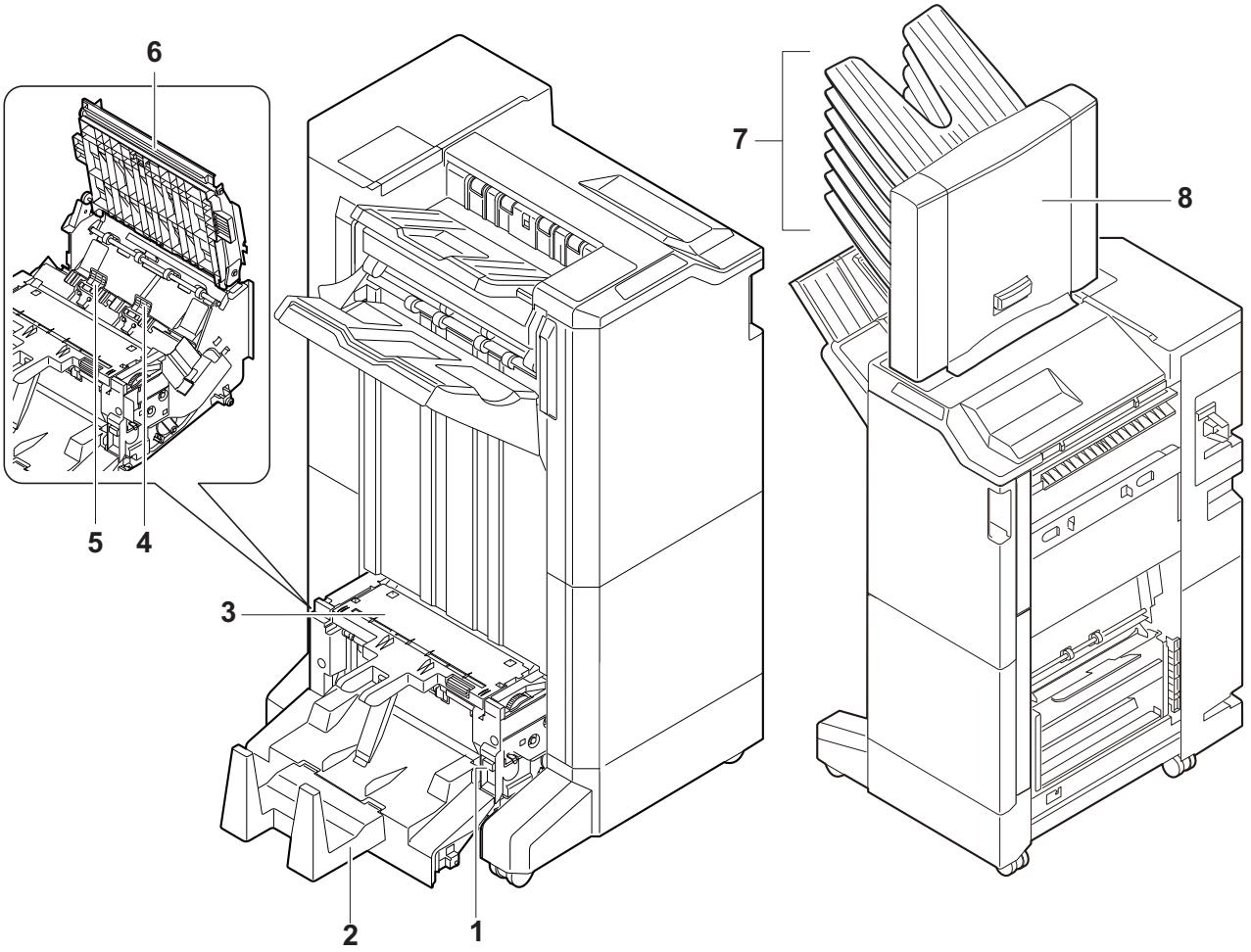

Figure 1-1-2

Centerfold unit(option)

1. Centerfold unit release lever
2. Centerfold tray
3. Centerfold unit top cover
4. Staple cartridge holder
5. Staple cartridge holder
6. Centerfold bridge unit

Mailbox (option)

7. Trays 1 - 7
8. Mailbox cover

(3) Bridge unit

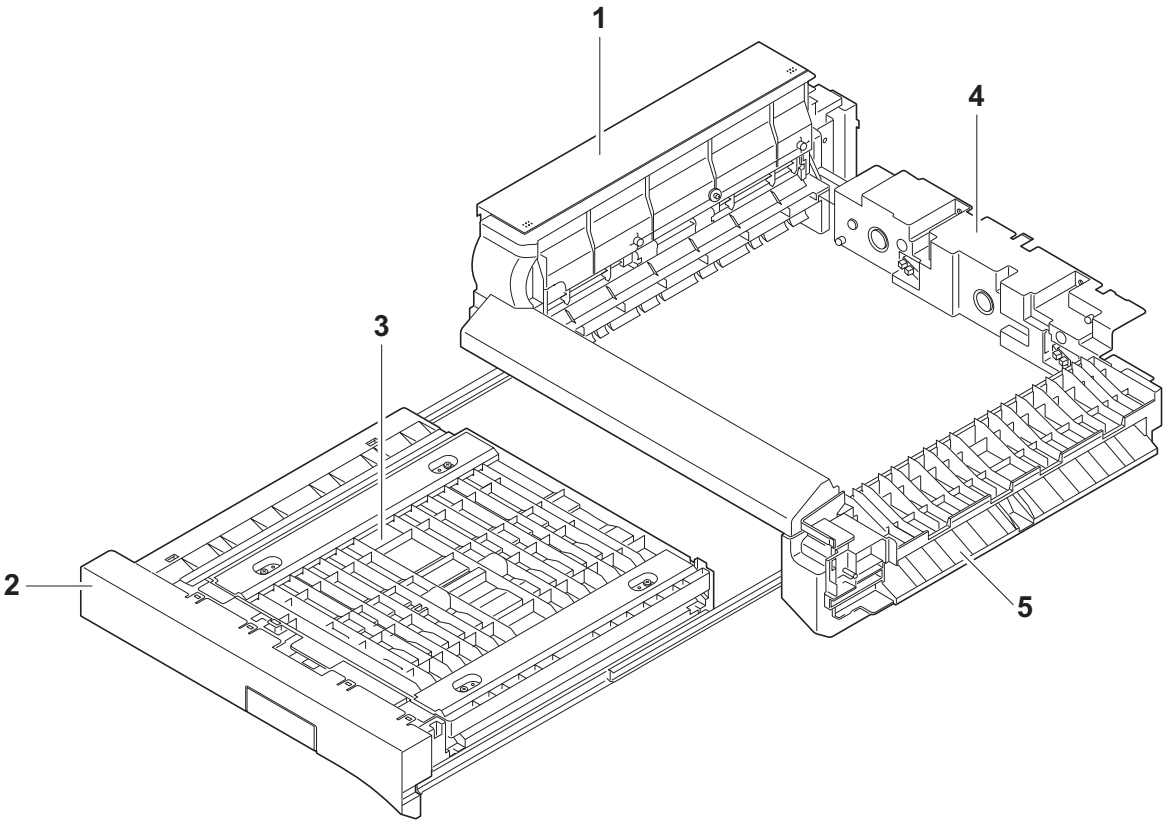

Figure 1-1-3

1. Bridge eject cover
2. Bridge conveying unit
3. Bridge conveying cover
4. Bridge drive unit
5. Bridge entry unit

1-1-3 Machine cross section

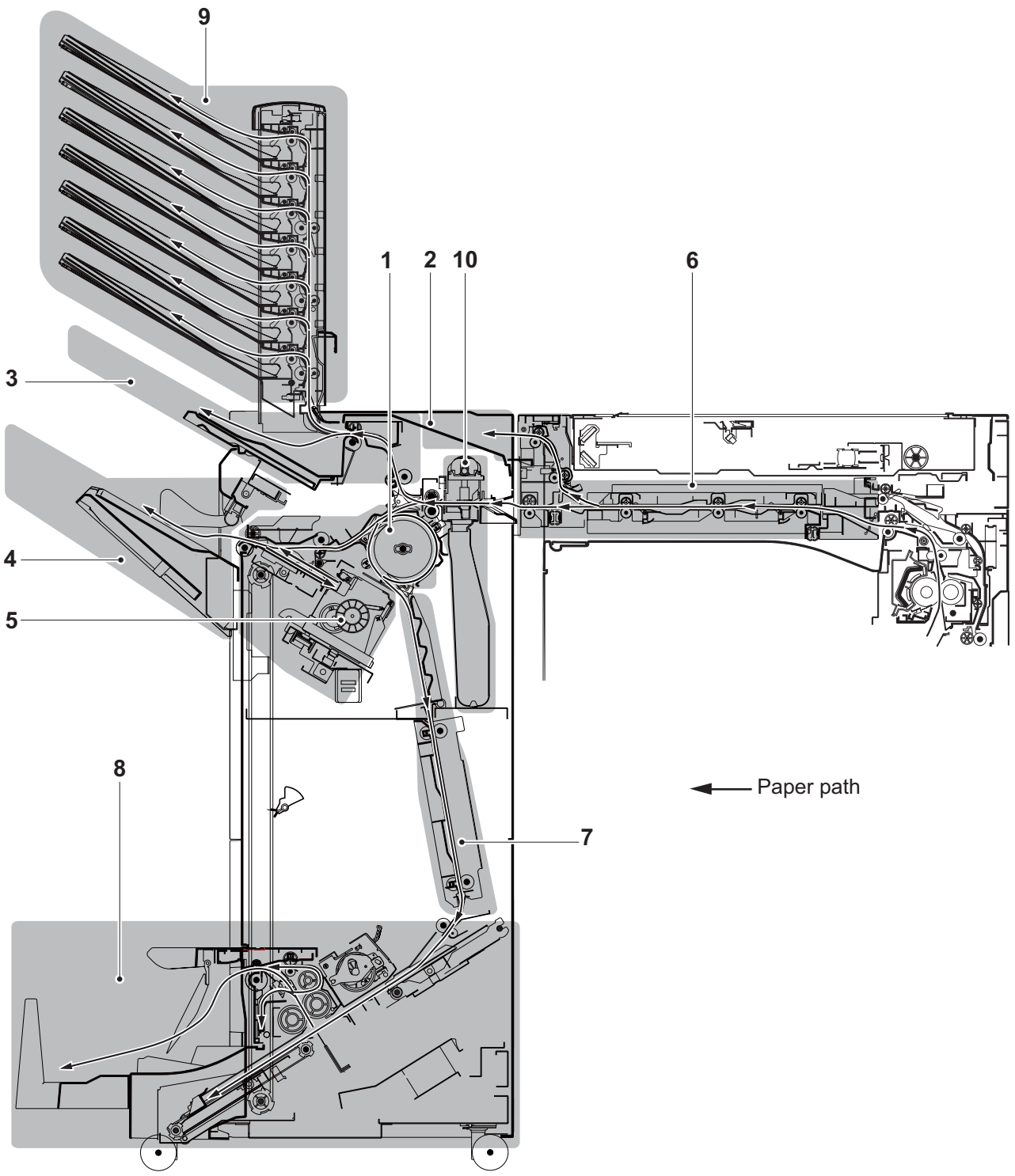

Figure 1-1-4

1. DF processing section
2. Right sub tray eject section
3. Left sub tray eject section
4. Main tray eject section
5. Staple unit
6. Bridge unit section
7. Center-folding bridge unit
8. Center-folding unit (option)
9. Mailbox (option)
10. Punch unit (Option)

1-2-1 Installation environment

Installation location (Be based on the machine establishment place.)
Avoid direct sunlight or bright lighting. Ensure that the photoconductor will not be exposed to direct sunlight or other strong light when removing paper jams.
Avoid locations subject to high temperature and high humidity or low temperature and low humidity; an abrupt change in the environmental temperature; and cool or hot, direct air.
Avoid places subject to dust and vibrations.
Choose a surface capable of supporting the weight of the machine.
Place the machine on a level surface (maximum allowance inclination: 1°).
Avoid air-borne substances that may adversely affect the machine or degrade the photoconductor, such as mercury, acidic of alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
Select a well-ventilated location.

1-2-2 Unpacking

(1) Unpacking

Document Finisher

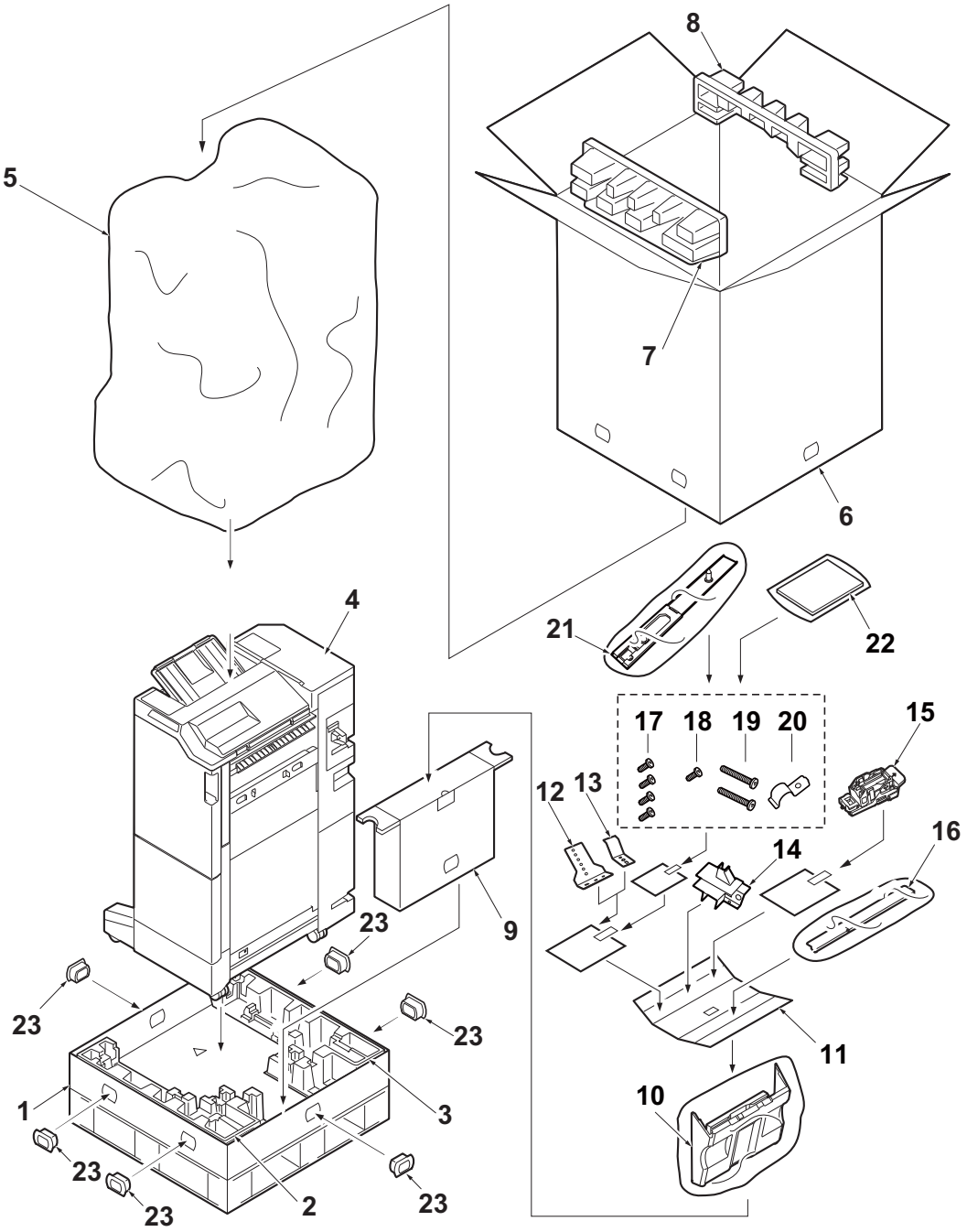

Figure 1-2-1

1. Skid
2. Bottom right pad
3. Bottom left pad
4. Document Finisher
5. Plastic sheet
6. Outer case
7. Upper right pad
8. Upper left pad
9. Spacer A
10. Finisher tray
11. Spacer B
12. Earth connection plate
13. Earth spring
14. Wire guide
15. Staple cartridge
16. Eject guide
17. M4 x 8 screw
18. M4 x 10 screw(black)
19. M4 x 30 screw
20. Upper earth plate
21. Connecting plate
22. Installation guide,etc.
23. Hinge joints

Bridge unit

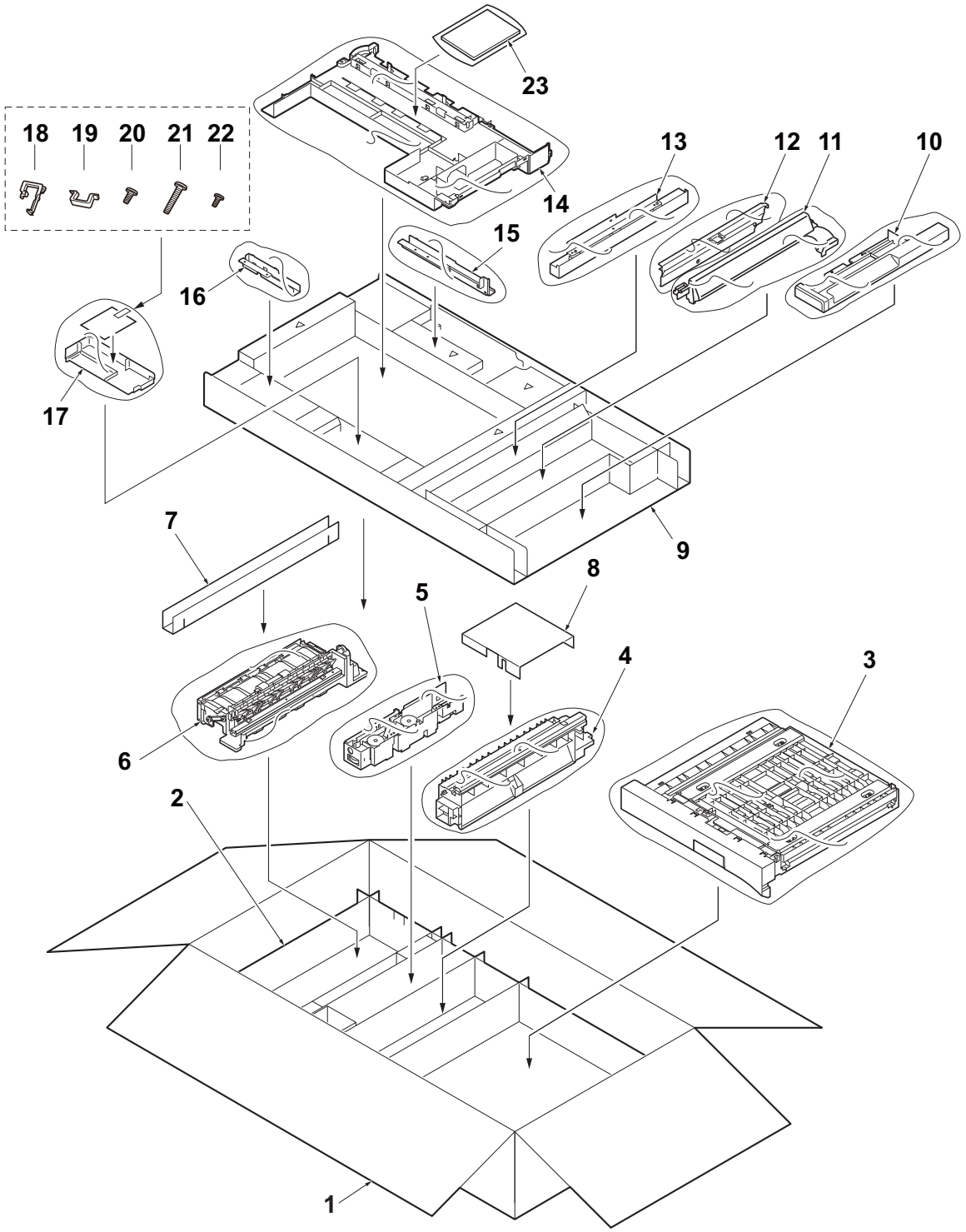

Figure 1-2-2

1. Outer case
2. Bottom spacer
3. Bridge conveying unit
4. Bridge entry unit
5. Bridge drive unit
6. Bridge eject unit
7. Spacer A
8. Spacer B
9. Top spacer
10. Left connevtion cover
11. Upper front cover
12. Left scanner cover
13. Lower connevtion cover
14. Left cover
15. Front left stay
16. Rear left stay
17. Upper left cover
18. Edging
19. Wire stopper
20. M4 x 8 screw
21. M4 x 20 screw
22. P Tite screw M3 x 8
23. Installation guide,etc.

Center-folding Unit

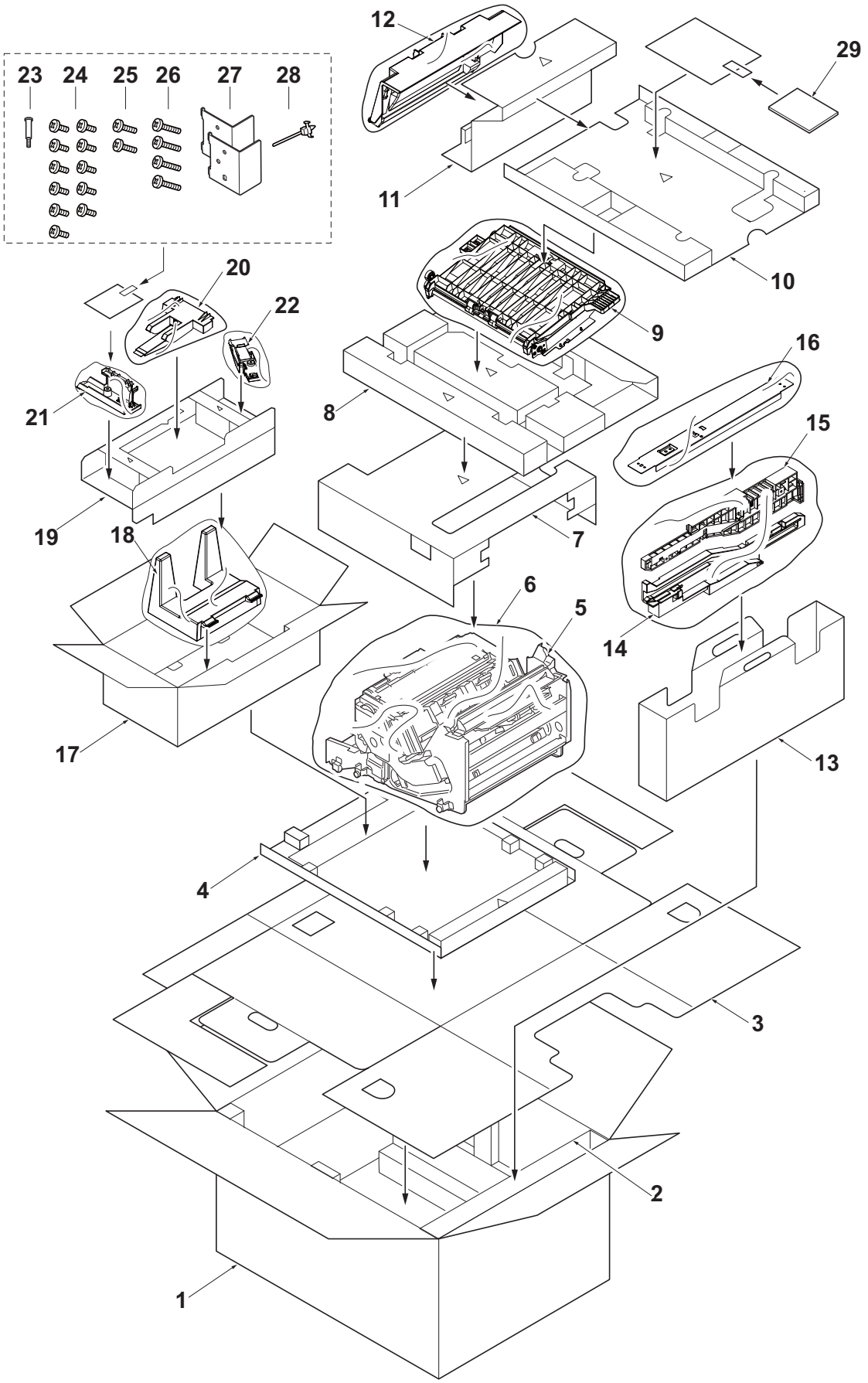

Figure 1-2-3

1. Outer case
2. Bottom spacer
3. Spacer A
4. Spacer B
5. Center-folding unit
6. Plastic sheet
7. Top spacer
8. Spacer C
9. Center-folding bridge unit
10. Spacer D
11. Spacer E
12. CF tray
13. Spacer F
14. Front rail
15. Rear rail
16. Guide
17. Spacer G
18. CF stock tray
19. Spacer H
20. Output stopper
21. Front side cover
22. Rear side cover
23. Pin
24. M4 x 8 screw
25. M4 x 10 screw
26. M4 x 12 screw
27. Lock plate
28. Binding band
29. Installation guide,etc.

Mail box

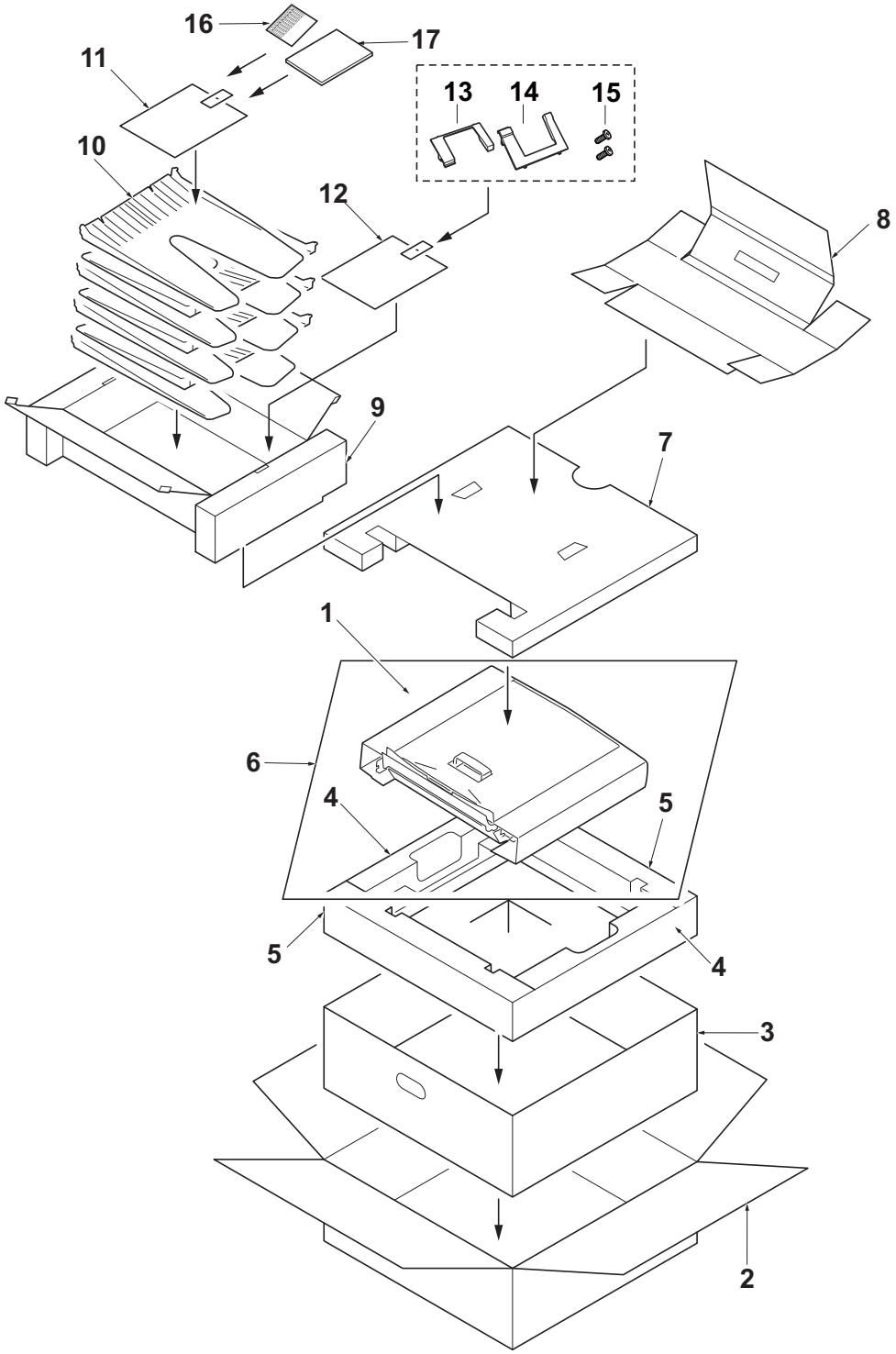

Figure 1-2-4

1. Mailbox
2. Outer case
3. Inner case
4. Bottom pad A
5. Bottom pad B
6. Plastic sheet
7. Inner pad
8. Side spacer
9. Accessory case
10. Trays
11. Plastic bag
12. Plastic bag
13. Front mounting plate cover
14. Rear mounting plate cover
15. M4 x 12 screw
16. Tray name label
17. Installation guide,etc.

See the Installation Guide for installation.

(2) Removing the tapes and pads

Document Finisher

Procedure

1. Remove tape from the finisher try.

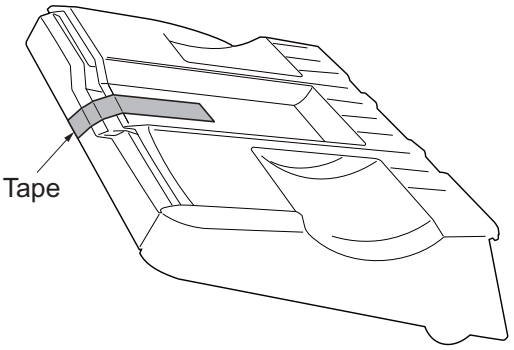

Figure 1-2-5

2. Remove five tapes from the document finisher.

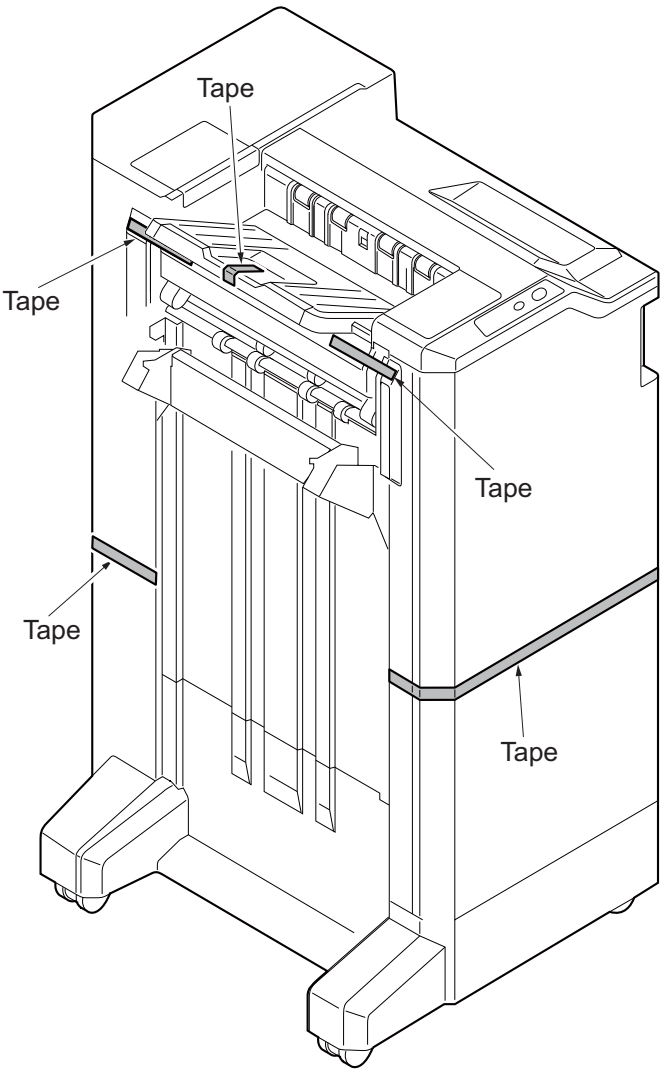

Figure 1-2-6

3. Open the DF upper front cover.

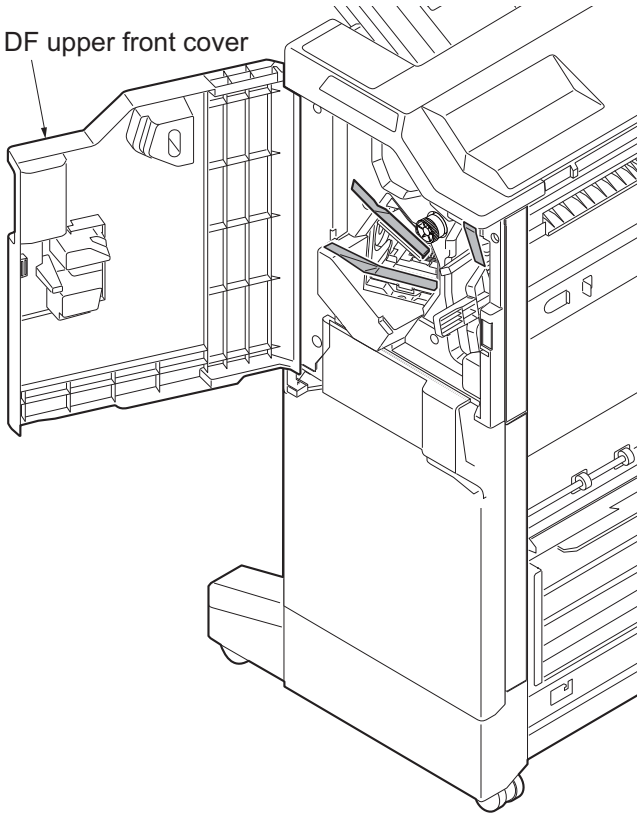

Figure 1-2-7

4. Remove three tapes and pad.

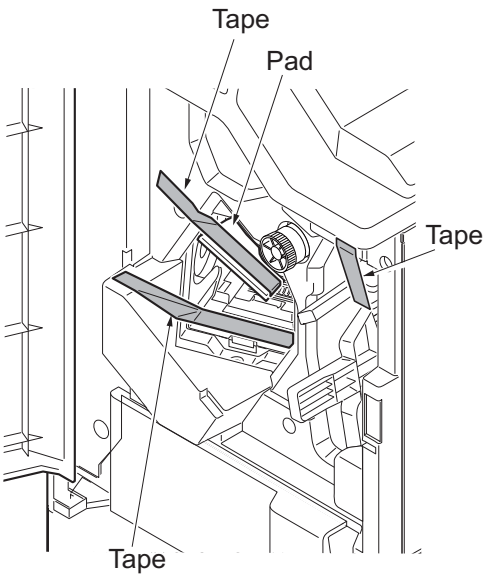

Figure 1-2-8

5. Remove tape from the DF upper rear cover.

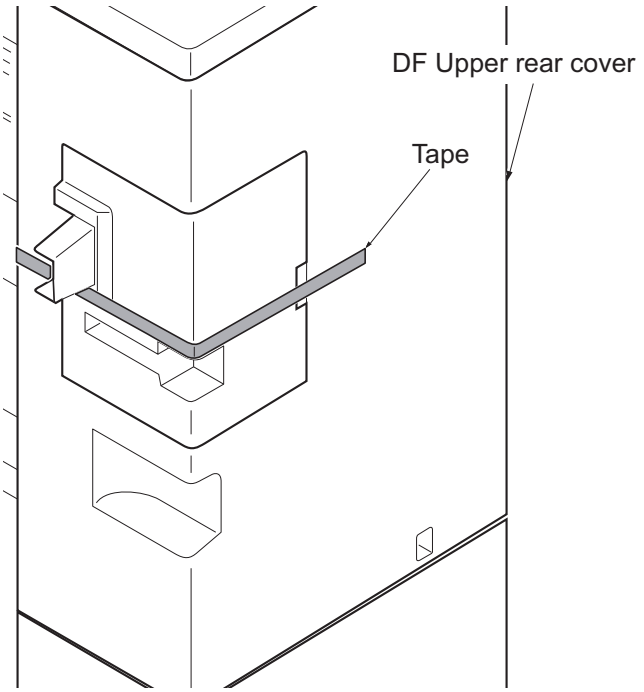

Figure 1-2-9

6. Remove the lid rear cover and then remove tape.

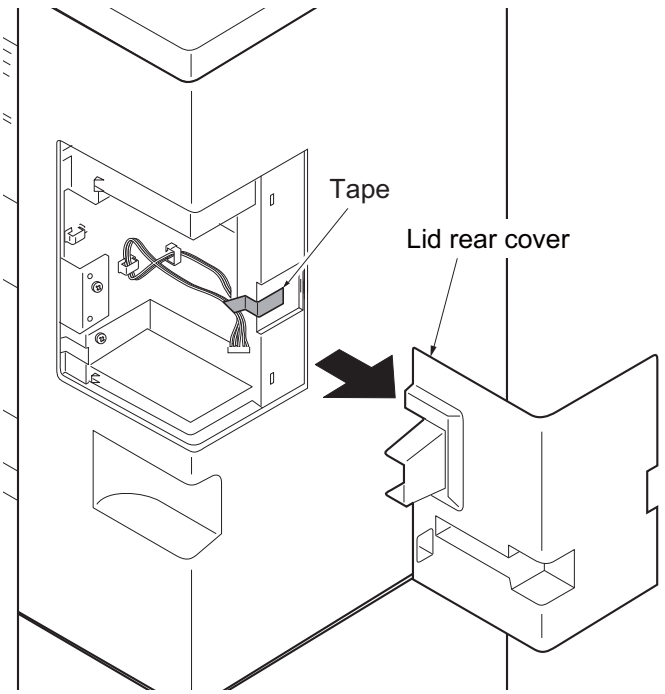

Figure 1-2-10

Bridge unit

Procedure

1. Remove tape from the bridge entry unit.

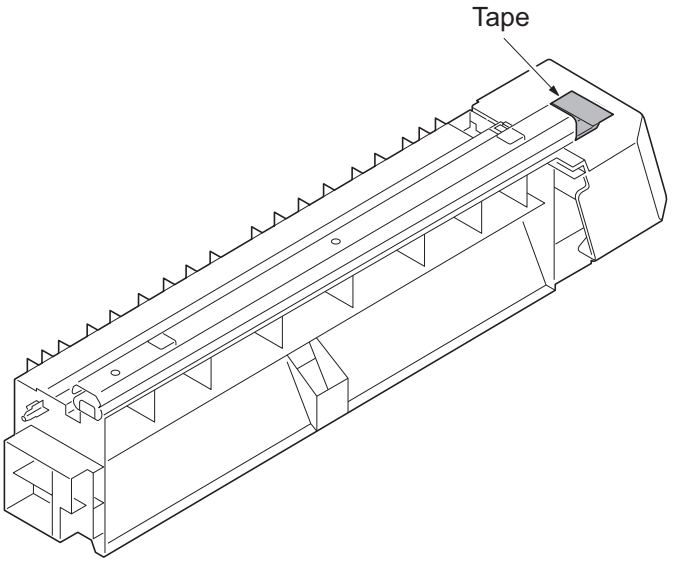

Figure 1-2-11

2. Remove five tapes from bridge conveying unit.

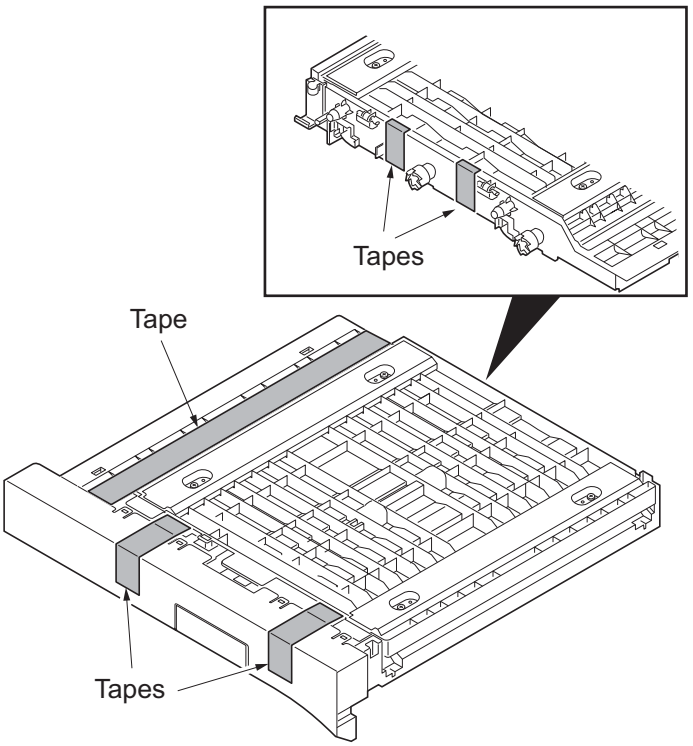

Figure 1-2-12

3. Remove two tapes from the bridge eject unit.

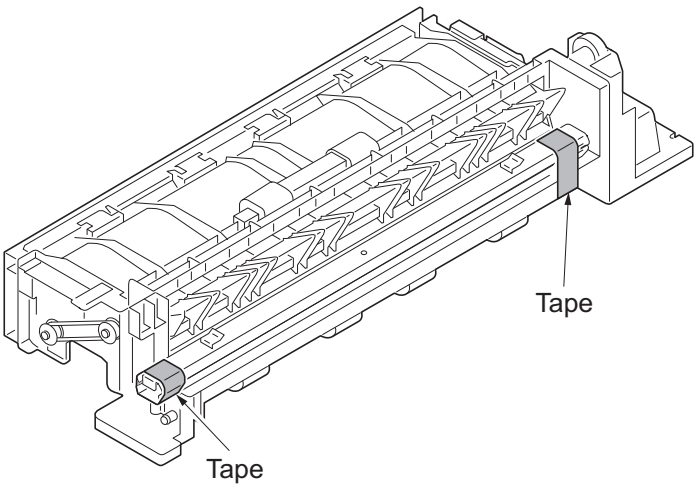

Figure 1-2-13

4. Remove three tapes and two pads.

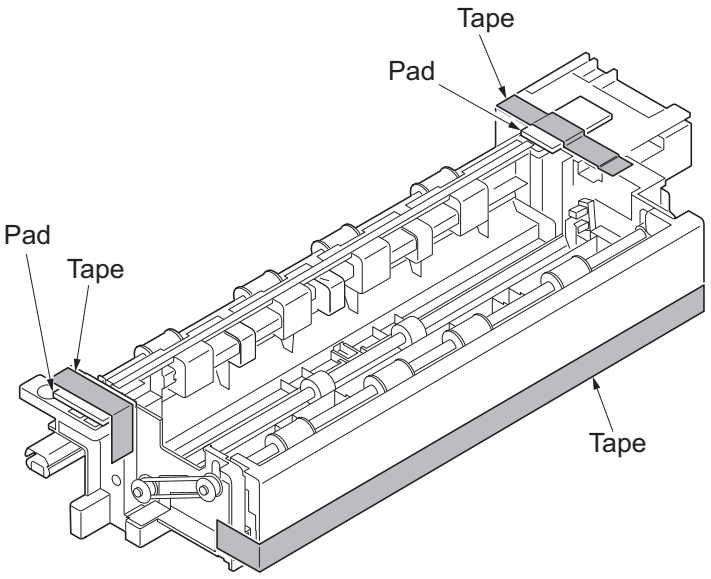

Figure 1-2-14

5. Remove tape from the bridge drive unit.

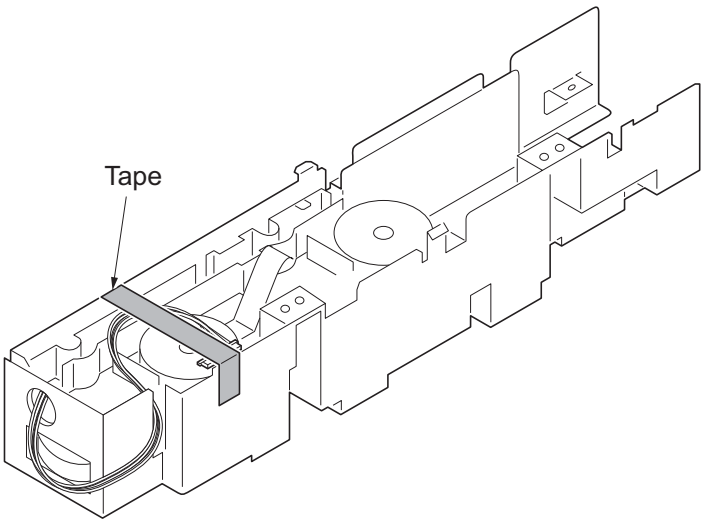

Figure 1-2-15

Center-folding Unit

Procedure

1. Remove two tapes and paper.

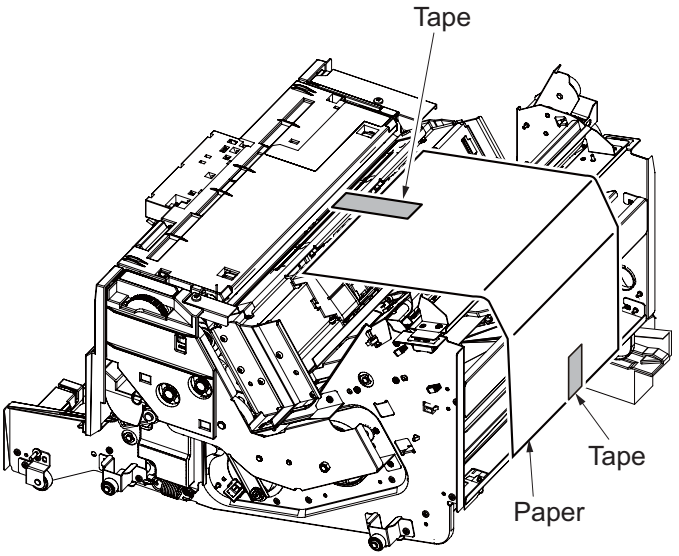

Figure 1-2-16

2. Remove nine tapes and pad.
   Note
   Remove the tapes from the wire guide during installation. Refer to the installation guide.

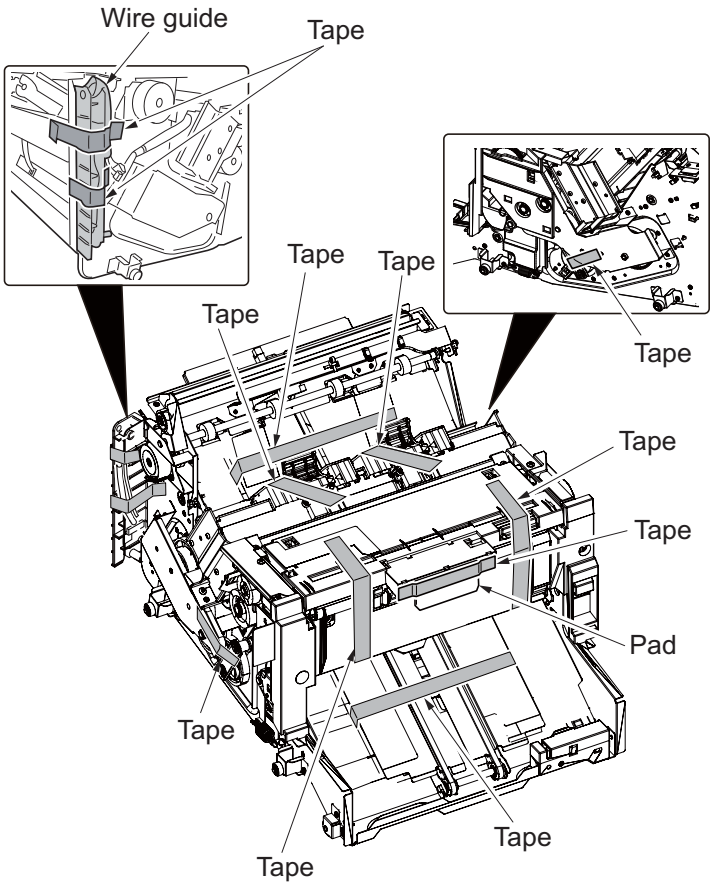

Figure 1-2-17

3. Remove tape and pad.

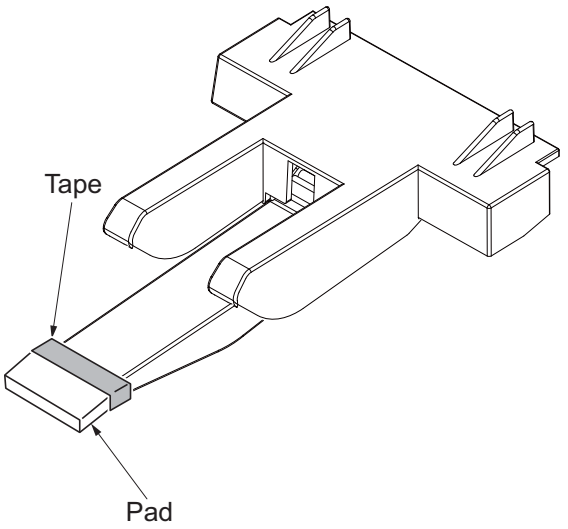

Figure 1-2-18

Mail box

Procedure

1. Remove two tapes.

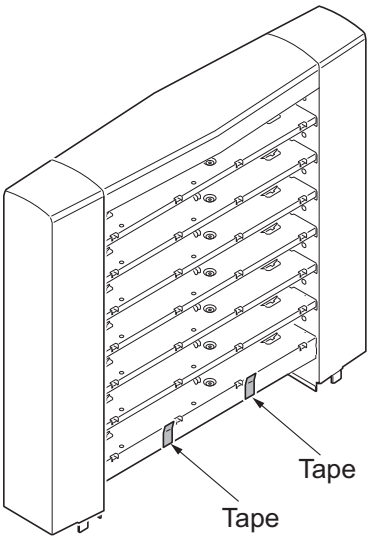

Figure 1-2-19

2. Remove five tapes and paper.

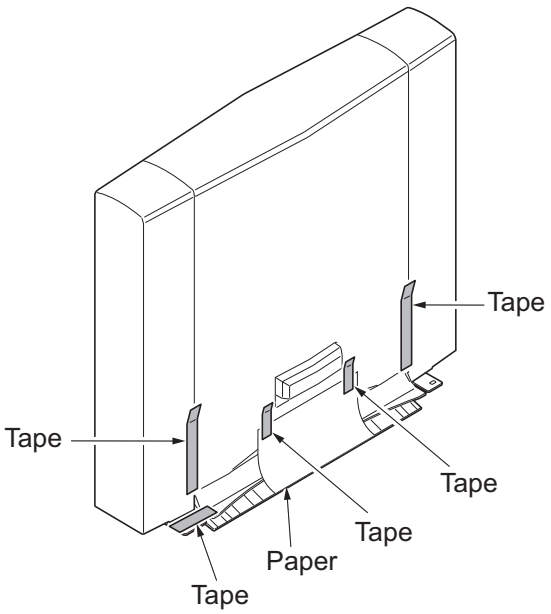

Figure 1-2-20

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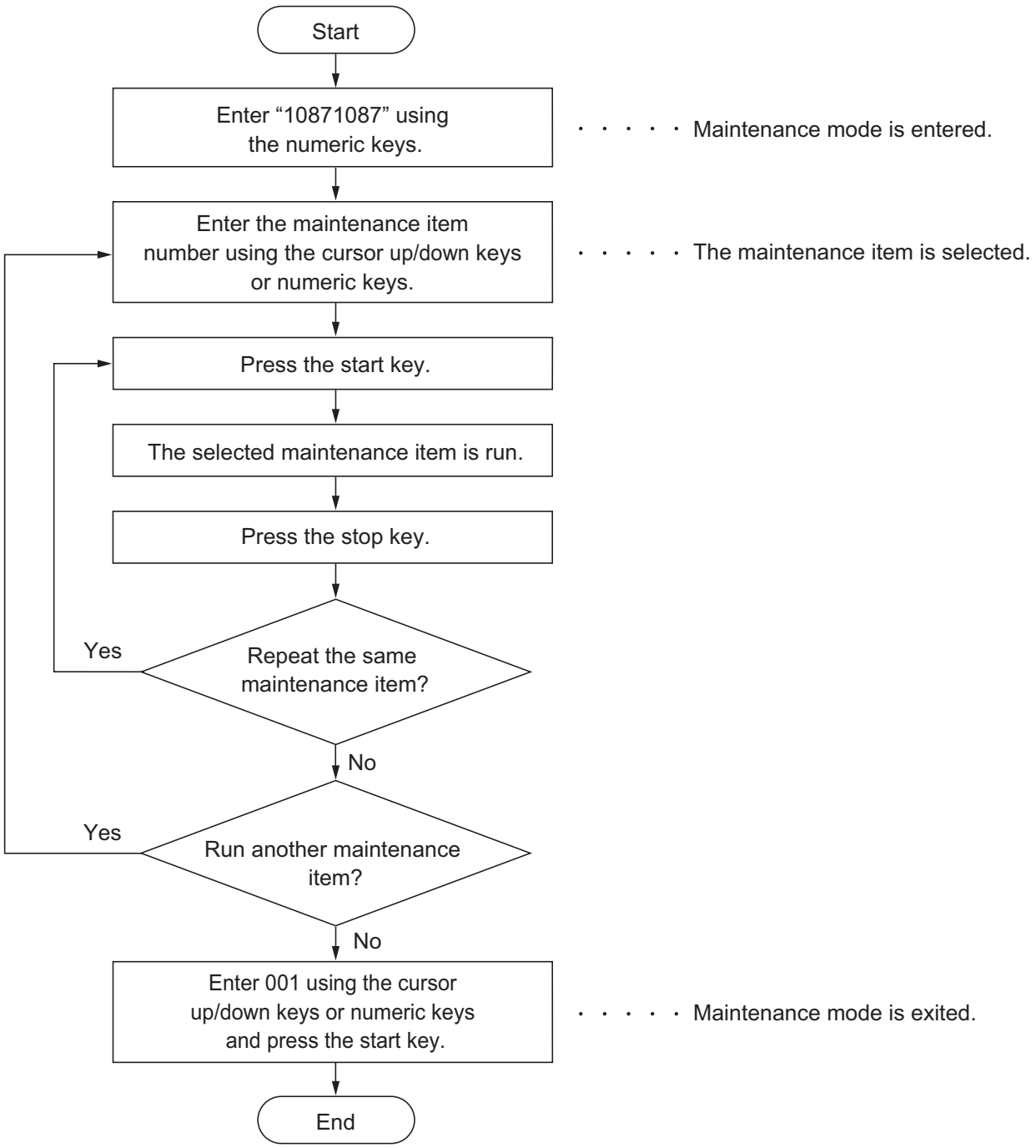
1-3-1 Maintenance mode

The machine is equipped with a maintenance function which can be used to maintain and service the machine.

(1) Executing a maintenance item


Start
Enter “10871087” using the numeric keys.
・・・・・ Maintenance mode is entered.
Enter the maintenance item number using the cursor up/down keys or numeric keys.
・・・・・ The maintenance item is selected.
Press the start key.
The selected maintenance item is run.
Press the stop key.
Repeat the same maintenance item?
Yes
No
Run another maintenance item?
Yes
No
Enter 001 using the cursor up/down keys or numeric keys and press the start key.
・・・・・ Maintenance mode is exited.
End

(2) Maintenance modes item list

Section	Item No.	Content of maintenance item	Initial setting
General	U019	Displaying the ROM version	-
Operation panel and support equipment	U234	Setting punch destination	Inch (Inch)/Europe Metric (Metric)
	U237	Setting finisher stack quantity	-
	U240	Checking the operation of the finisher	-
	U241	Checking the operation of the finisher	-
	U246	Setting the finisher	
		Finisher	0/0/0/0/0/0/0/0
		Booklet	0/0/0/0/0/0/0/0/0
Others	U905	Checking counts by optional devices	-

Contents of the maintenance mode items

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U019</td><td>
Displaying the ROM version

Description
Displays the part number of the ROM fitted to each PWB.
Purpose
To check the part number or to decide, if the newest version of ROM is installed.

Method
1. Press the start key. The ROM version are displayed.
2. Change the screen using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Main</td><td>Main ROM</td></tr>
<tr><td>MMI</td><td>Operation ROM</td></tr>
<tr><td>Browser</td><td>Browser ROM</td></tr>
<tr><td>Engine</td><td>Engine ROM</td></tr>
<tr><td>Engine Boot</td><td>Engine booting</td></tr>
<tr><td>Scanner</td><td>Scanner ROM</td></tr>
<tr><td>Scanner Boot</td><td>Scanner booting</td></tr>
<tr><td>RFID</td><td>RFID ROM</td></tr>
<tr><td>IH CPU</td><td>IH CPU ROM</td></tr>
<tr><td>IH CPU Boot</td><td>IH CPU booting</td></tr>
<tr><td>Motor CPU</td><td>Motor CPU ROM</td></tr>
<tr><td>Motor CPU Boot</td><td>Motor CPU booting</td></tr>
<tr><td>Dictionary</td><td>-</td></tr>
<tr><td>Option Language</td><td>Optional language ROM</td></tr>
<tr><td>PDF1.7 Resource</td><td>PDF1.7 resource ROM</td></tr>
<tr><td>Solution Framework</td><td>Framework ROM</td></tr>
<tr><td>FMU</td><td>FMU ROM</td></tr>
<tr><td>Weekly Timer</td><td>Weekly Timer ROM</td></tr>
<tr><td>Color Table1(Copy)</td><td>Color table 1 (copy) ROM</td></tr>
<tr><td>Color Table2(Copy)</td><td>Color table 2 (copy) ROM</td></tr>
<tr><td>Color Table1(Prn)</td><td>Color table 1 (printer) ROM</td></tr>
<tr><td>Color Table2(Prn)</td><td>Color table 2 (printer) ROM</td></tr>
<tr><td>DP</td><td>Document processor ROM</td></tr>
<tr><td>DP Boot</td><td>Document processor booting</td></tr>
<tr><td>PF1</td><td>Paper feeder / Large capacity feeder ROM</td></tr>
<tr><td>PF1 Boot</td><td>Paper feeder / Large capacity feeder booting</td></tr>
<tr><td>Side PF</td><td>SMT paper feeder /Side feeder ROM</td></tr>
</table>
</td></tr>
</table>

Item No.	Description
U019	

Display	Description
Side PF Boot	SMT paper feeder /Side feeder booting
PF2	Side paper feeder / Side large capacity feeder ROM
PF2 Boot	Side paper feeder / Side large capacity feeder booting
DF	1000-sheet finisher / 4000-sheet finisher ROM
DF Boot	1000-sheet finisher / 4000-sheet finisher booting
PH	Punch unit ROM
PH Boot	Punch unit booting
MT	Mailbox ROM
MT Boot	Mailbox booting
BF	Center-folding unit ROM
BF Boot	Center-folding unit booting
Fax APL1	Fax APL 1
Fax Boot1	Fax booting 1
Fax IPL1	Fax IPL 1
Fax APL2	Fax APL 2 (dual Fax)
Fax Boot2	Fax booting 2 (dual Fax)
Fax IPL2	Fax IPL 2 (dual Fax)

Completion

Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U234</td><td>
Setting punch destination

Description
Sets the destination of punch unit of 1000-sheet finisher or 4000-sheet finisher.
Purpose
To be set when installing a different punch unit from the destination of the machine.

Setting
1. Press the start key.
2. Select the destination.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Auto</td><td>Conforms to destination settings.</td></tr>
<tr><td>Japan Metric</td><td>Metric (Japan) specifications</td></tr>
<tr><td>Inch</td><td>Inch (North America) specifications</td></tr>
<tr><td>Europe Metric</td><td>Metric (Europe) specifications</td></tr>
<tr><td>Sweden</td><td>Sweden specifications</td></tr>
</table>
Initial setting: Inch (Inch specifications)/Europe Metric (Metric specifications)
3. Press the start key. The setting is set.
4. Turn the main power switch off and on. Allow more than 5 seconds between Off and On.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U237</td><td>
Setting finisher stack quantity

Description
Sets the number of sheets of each stack on the main tray and on the middle tray in 4000-sheet finisher.
Purpose
To change the setting when a stack malfunction has occurred.

Method
1. Press the start key.
2. Select the item to be set.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Main Tray</td><td>Number of sheets of stack on the main tray</td></tr>
<tr><td>Middle Tray</td><td>Number of sheets of stack on the middle tray for staple mode</td></tr>
</table>
Setting: [Main Tray]
1. Change the setting using the +/- keys or numeric keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>0</td><td>Number of sheets of stack on the main tray: 4000 sheets</td></tr>
<tr><td>1</td><td>Number of sheets of stack on the main tray: 1500 sheets</td></tr>
</table>
Initial setting: 0
2. Press the start key. The setting is set.
3. Turn the main power switch off and on. Allow more than 5 seconds between Off and On.

Setting: [Middle Tray]
1. Change the setting using the +/- keys or numeric keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>0</td><td>Number of sheets of stack on the middle tray for staple mode: 50 sheets</td></tr>
<tr><td>1</td><td>Number of sheets of stack on the middle tray for staple mode: 30 sheets</td></tr>
</table>
Initial setting: 0
Number of sheets of stack on the internal tray for non-staple copying: 10 sheets
2. Press the start key. The setting is set.
3. Turn the main power switch off and on. Allow more than 5 seconds between Off and On.
</td></tr>
</table>

Item No.	Description
U240	**Checking the operation of the finisher** **Description** Turns each motor and solenoid of 1000-sheet finisher or 4000-sheet finisher ON. **Purpose** To check the operation of each motor and solenoid of the 1000-sheet finisher or 4000-sheet finisher. **Method** 1. Press the start key. 2. Select the item to be checked.

Display	Description
Motor	Checking the motor of the document finisher
Solenoid	Checking the solenoid of the document finisher
Mail Box	Checking the motor of the mailbox
Booklet	Checking the motor of the center-folding unit

Method: [Motor]
1. Select the item to be operated.
2. Press the start key. The operation starts.

Display	Description
Feed In(H)	DF paper entry motor (DFPEM) is turned on at high speed
Feed In(L)	DF paper entry motor (DFPEM) is turned on at low speed
Middle(H)	DF middle motor (DFMM) is turned on at high speed
Middle(L)	DF middle motor (DFMM) is turned on at low speed
Eject(H)	DF eject motor (DFEM) is turned on at high speed
Eject(L)	DF eject motor (DFEM) is turned on at low speed
Save(H)	DF drum motor (DFDRM) is turned on at high speed
Save(L)	DF drum motor (DFDRM) is turned on at low speed
Tray	DF tray motor (DFTM) is turned on
Staple Move	DF slide motor (DFSLM) is turned on
Staple	DF staple motor (DFSTM) is turned on
Width Test(A3)	DF side registration motor 1, 2 (DFSRM1, 2) is turned on
Width Test(LD)	DF side registration motor 1, 2 (DFSRM1, 2) is turned on
Beat	DF paddle motor (DFPDM) is turned on
Eject Unlock(HP)	DF eject release motor (DFERM) is turned on to home position
Sort Test	DF shift motor 1, 2 (DFSFM1, 2) is turned on
Eject Unlock(30)	DF eject release motor (DFERM) drive position 30-sheet stack
Eject Unlock(50)	DF eject release motor (DFERM) drive position 50-sheet stack
Eject Unlock(Fix)	DF eject release motor (DFERM) fixed drive position

Item No.	Description
U240	

Method: [Solenoid]

1. Select the item to be operated.
2. Press the start key. The operation starts.

Display	Description
Sub Tray	DF feedshift solenoid (DFFSSOL) is turned on
Save Drum	DF drum solenoid (DFDRSOL) is turned on
Booklet	DF center fold solenoid (DFCFSOL) is turned on
Punch	Punch solenoid (PUSOL) is turned on
Three Fold	CF feedshift solenoid (CFFSSOL) is turned on

Method: [Mail Box]

1. Select the item to be operated.
2. Press the start key. The operation starts.

Display	Description
Conv	Mailbox drive motor (MBDM) is turned on at paper conveying
Branch	Mailbox drive motor (MBDM) is turned on at feedshift operation

Method: [Booklet]

1. Select the item to be operated.
2. Press the start key. The operation starts.

Display	Description
Folding	CF main motor (CFMM) is turned on
Blade	CF blade motor (CFBM) is turned on
Bundle Up	CF adjustment motor 2 (CFADM2) is turned on
Bundle Down	CF adjustment motor 1 (CFADM1) is turned on
Staple	CF staple motor (CFSTM) is turned on
Width Test(A3)	CF side registration motor 1, 2 (CFSRM1, 2) is turned on
Width Test(LD)	CF side registration motor 1, 2 (CFSRM1, 2) is turned on
Feed In	CF paper entry motor (CFPEM) is turned on

Completion

Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U241</td><td>
Checking the operation of the switches of the finisher

Description
Displays the status of each switches and sensors of 1000-sheet finisher or 4000-sheet finisher.
Purpose
To check the operation of each switches and sensors of the 1000-sheet finisher or 4000-sheet finisher.

Method
1. Press the start key.
2. Select the item to be checked.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Finisher</td><td>Checking the switch and sensor of the document finisher</td></tr>
<tr><td>Mail Box</td><td>Checking the switch and sensor of the mailbox</td></tr>
<tr><td>Booklet</td><td>Checking the switch and sensor of the center-folding unit</td></tr>
<tr><td>Punch</td><td>Checking the switch and sensor of the punch unit</td></tr>
</table>
Method: [Finisher]
1. Turn each switch or sensor on and off manually to check the status.
When the on-status of a switch or sensor is detected, that switch or sensor is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Front Cover</td><td>DF front cover switch (DFFCSW)</td></tr>
<tr><td>MPT</td><td></td></tr>
<tr><td>Top Cover</td><td>DF top cover switch (DFTCSW)</td></tr>
<tr><td>Tray U-Limit</td><td>DF tray upper limit sensor (DFTULS)</td></tr>
<tr><td>Tray HP2</td><td></td></tr>
<tr><td>Tray Middle</td><td>DF tray middle sensor (DFTMS)</td></tr>
<tr><td>Tray L-Limit</td><td>DF tray upper limit sensor (DFTLLS)</td></tr>
<tr><td>Tray L-Limit(BL)</td><td>DF tray center hold sensor (DFTCFS)</td></tr>
<tr><td>Tray Top</td><td>DF tray upper surface sensor (DFTUSS)</td></tr>
<tr><td>HP</td><td>DF paper entry sensor (DFPES)</td></tr>
<tr><td>Sub Tray Eject</td><td>DF sub eject sensor (DFSES)</td></tr>
<tr><td>Middle Tray Eject</td><td>DF middle eject sensor (DFMES)</td></tr>
<tr><td>Drum</td><td>DF drum sensor (DFDRS)</td></tr>
<tr><td>Staple HP</td><td>DF slide sensor (DFSLS)</td></tr>
<tr><td>Middle Tray</td><td>DF middle tray sensor (DFMTS)</td></tr>
<tr><td>Width Front HP</td><td>DF side regstration sensor 1 (DFSRS1)</td></tr>
<tr><td>Width Tail HP</td><td>DF side regstration sensor 2 (DFSRS2)</td></tr>
<tr><td>Bundle Eject HP</td><td>DF bundle discharge sensor (DFBDS)</td></tr>
</table>
</td></tr>
</table>

Item No.	Description
U241	**Method: [Mail Box]** 1. Turn each switch or sensor on and off manually to check the status. When the on-status of a switch or sensor is detected, that switch or sensor is displayed in reverse.

Display	Description
Eject	MB eject sensor (MBES)
Cover	MB cover open/close switch (MBCOCSW)
Over Flow1	MB overflow sensor 1 (MBOFS1)
Over Flow2	MB overflow sensor 2 (MBOFS2)
Over Flow3	MB overflow sensor 3 (MBOFS3)
Over Flow4	MB overflow sensor 4 (MBOFS4)
Over Flow5	MB overflow sensor 5 (MBOFS5)
Over Flow6	MB overflow sensor 6 (MBOFS6)
Over Flow7	MB overflow sensor 7 (MBOFS7)
Motor HP	MB paper entry sensor (MBPES)

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U241</td><td>
Method: [Booklet]
1. Turn each switch or sensor on and off manually to check the status.
When the on-status of a switch or sensor is detected, that switch or sensor is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>HP</td><td>CF paper entry sensor (CFPES)</td></tr>
<tr><td>Eject</td><td>CF eject sensor (CFES)</td></tr>
<tr><td>Paper</td><td>CF paper sensor (CFPS)</td></tr>
<tr><td>Tray Full</td><td>CF tray full sensor (CFTFS)</td></tr>
<tr><td>Bundle Up HP</td><td>CF adjustment sensor 1 (CFADS1)</td></tr>
<tr><td>Bundle Down HP</td><td>CF adjustment sensor 2 (CFADS2)</td></tr>
<tr><td>Width Up HP</td><td>CF side registration sensor 1 (CFSRS1)</td></tr>
<tr><td>Width Down HP</td><td>CF side registration sensor 2 (CFSRS2)</td></tr>
<tr><td>Blade HP</td><td>CF blade sensor (CFBLS)</td></tr>
<tr><td>Tray</td><td>CF tray switch (CFTSW)</td></tr>
<tr><td>Set</td><td>CF set switch (CFSSW)</td></tr>
<tr><td>Left Guide</td><td>CF left guide switch (CFLGSW)</td></tr>
<tr><td>Vertical Feed</td><td>CF paper conveying sensor (CFPCS)</td></tr>
</table>
Method: [Punch]
1. Turn each switch or sensor on and off manually to check the status.
When the on-status of a switch or sensor is detected, that switch or sensor is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Punch HP</td><td>Punch home position sensor (PUHPS)</td></tr>
<tr><td>Edge Face1</td><td>Punch paper edge sensor (PUPES)</td></tr>
<tr><td>Edge Face2</td><td>Punch paper edge sensor (PUPES)</td></tr>
<tr><td>Edge Face3</td><td>Punch paper edge sensor (PUPES)</td></tr>
<tr><td>Edge Face4</td><td>Punch paper edge sensor (PUPES)</td></tr>
<tr><td>Tank</td><td>Punch tank set switch (PUTSSW)</td></tr>
<tr><td>Tank Full</td><td>Punch tank full sensor (PUTFS)</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U246</td><td>
Setting the finisher

Description
Provides various settings for the 1000-sheet finisher or 4000-sheet finisher, if furnished.
Purpose
Adjustment of registration stop timing in punch mode
Adjust if skewed paper conveying occurs or if the copy paper is Z-folded in punch mode.
Adjustment of paper stop timing in the punch mode
To adjust this item when the position of a punch hole is different from the specified one.
Adjustment of center position timing in the punch mode
Adjusts the center position of a punch hole in punch mode if the position is not proper.
Adjustment of front/rear side registration home position
Provides optimization when paper jam occurs due to an inferior fitting of the side registration guides to paper.
Adjustment of front/rear shift home position
Performed when alighment is lost with the ejected paper
Adjusting of front/back stapling home position
Adjusts the stapling position in the staple mode if the position is not proper.
Adjustment of upper/lower side registration home position
Provides optimization when paper jam occurs due to an inferior fitting of the side registration guides to paper.
Adjustment of booklet stapling position
Adjusts the booklet stapling position in the stitching mode if the position is not proper.
Adjustment of center folding position
Adjusts the center folding position in the stitching mode if the position is not proper.
Adjustment of tri- folding position
Adjusts the tri-folding position in the stitching mode if the position is not proper.

Method
1. Press the start key.
2. Select the item to set.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Finisher</td><td>Adjustment of 1000-sheet finisher and 4000-sheet finisher</td></tr>
<tr><td>Booklet</td><td>Adjustment of center-folding unit</td></tr>
</table>

Method: [Finisher]
1. Select the item to set.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Punch Regist</td><td>Adjustment of registration stop timing in punch mode</td></tr>
<tr><td>Punch Feed</td><td>Adjustment of the paper stop timing in punch mode</td></tr>
<tr><td>Punch Width</td><td>Adjustment of the center position timing in punch mode</td></tr>
<tr><td>Width Front HP</td><td>Adjustment of front side registration home position</td></tr>
<tr><td>Width Tail HP</td><td>Adjustment of rear side registration home position</td></tr>
<tr><td>Shift Front HP</td><td>Adjustment of front shift home position</td></tr>
<tr><td>Shift Tail HP</td><td>Adjustment of rear shift home position</td></tr>
<tr><td>Staple HP</td><td>Adjustment of front and back stapling home position</td></tr>
</table>
</td></tr>
</table>

Item No.	Description
U246	**Setting: [Punch Regist]** 1. Select [Punch Regist]. 2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of registration stop timing	-20 to 20	0	0.25 mm

If skewed paper conveying occurs (sample 1), increase the setting value. If the copy paper is Z-folded (sample 2), decrease the setting value.

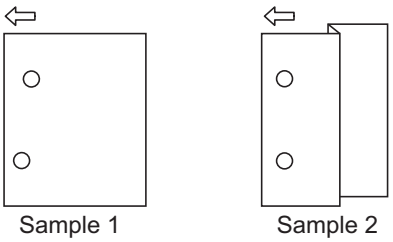


Figure 1-3-1

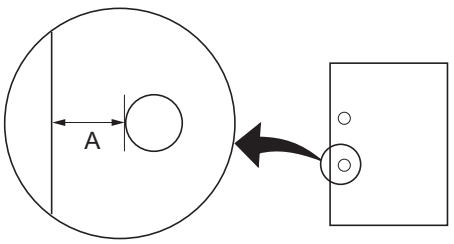
3. Press the start key. The value is set.

Setting: [Punch Feed]

1. Select [Punch Feed].
2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of the paper stop timing	-10 to 10	0	0.52 mm

If the distance of the position of a punch hole is smaller than the specified value A, increase the setting value. If the distance is larger than the value A, decrease the setting value.



Preset value A: 13 mm (metric)
9.5 mm (inch)

Figure 1-3-2

3. Press the start key. The value is set.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U246</td><td>

Setting: [Punch Width]

1. Select [Punch Width].
2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of the punch center position timing	-4 to 4	0	0.52 mm

If the punch hole is too close to the front of the machine, increase the setting value. If the punch hole is too close to the rear of the machine, decrease the setting value.

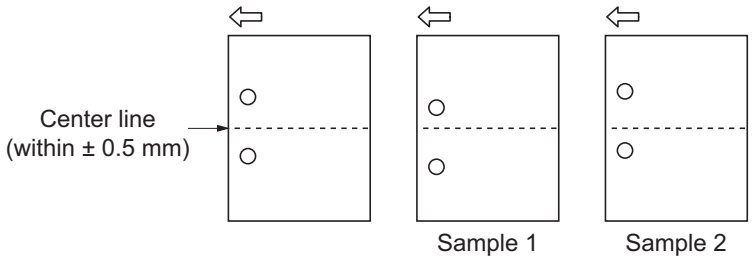


Figure 1-3-3

3. Press the start key. The value is set.

Setting: [Width Front HP/Width Tail HP]

1. Select [Width Front HP] or [Width Tail HP].
2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of front side registration home position	-15 to 15	0	0.19 mm
Adjustment of rear side registration home position	-15 to 15	0	0.19 mm

3. Press the start key. The value is set.
4. Press the stop key. The screen for selecting a maintenance item No. is displayed.
5. Enter maintenance mode U240 and select [Motor], then [Width Test(A3)].
   The width guides of the middle tray will move to A3-size position.
6. Pull the middle tray, insert paper between the guides and check that paper is abut the guides.
7. Repeat the above adjustment until paper is properly in position.

Setting: [Shift Front HP/Shift Tail HP]

1. Select [Shift Front HP] or [Shift Tail HP].
2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of front shift home position	-15 to 15	0	0.19 mm
Adjustment of rear shift home position	-15 to 15	0	0.19 mm

3. Press the start key. The value is set.
4. Press the stop key. The screen for selecting a maintenance item No. is displayed.
5. Enter maintenance mode U240 and select [Motor], then [Sort Test].
6. Repeat the above adjustment until eject paper is properly in position.

</td></tr>
</table>

Item No.	Description
U246	**Setting: [Staple HP]** 1. Select [Staple HP]. 2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of front and back stapling home position	-15 to 15	0	0.19 mm

When staple positions are off toward the front side of the machine (sample 1), increase the setting value. When staple positions are off toward the rear side of the machine (sample 2), decrease the setting value.

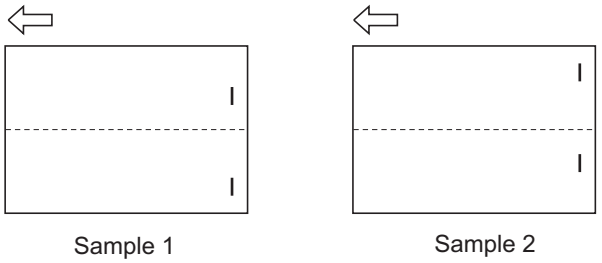


Figure 1-3-4

3. Press the start key. The value is set.

Method: [Booklet]

1. Select the item to set.

Display	Description
Width Up HP	Adjustment of upper side registration home position
Width Down HP	Adjustment of lower side registration home position
Staple Pos1	Adjustment of booklet stapling position for A4/Letter size
Staple Pos2	Adjustment of booklet stapling position for B4/Legal size
Staple Pos3	Adjustment of booklet stapling position for A3/Ledger size
Booklet Pos1	Adjustment of center folding position for A4/Letter size
Booklet Pos2	Adjustment of center folding position for B4/Legal size
Booklet Pos3	Adjustment of center folding position for A3/Ledger size
Three Fold	Adjustment of tri-folding position

Item No.	Description
U246	**Setting: [Width Up HP/Width Down HP]** 1. Select [Width Up HP] or [Width Down HP]. 2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of upper side registration home position	-15 to 15	0	0.34 mm
Adjustment of lower side registration home position	-15 to 15	0	0.34 mm

3. Press the start key. The value is set.
4. Press the stop key. The screen for selecting a maintenance item No. is displayed.
5. Enter maintenance mode U240 and select [Booklet], then [Width Test(A3)].
   The width guides of the center-folding unit will move to A3-size position.
6. Pull the center-folding unit, insert paper between the guides and check that paper is abut the guides.
7. Repeat the above adjustment until paper is properly in position.

Setting: [Staple Pos]

1. Select [Staple Pos1], [Staple Pos2] or [Staple Pos3].
2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of booklet stapling position for A4/Letter size	-15 to 15	0	0.32 mm
Adjustment of booklet stapling position for B4/Legal size	-15 to 15	0	0.32 mm
Adjustment of booklet stapling position for A3/Ledger size	-15 to 15	0	0.32 mm

When staples are placed too far right (sample 1), decrease the preset value. When staples are placed too far left (sample 2), increase the preset value.
Reference value: within ± 2 mm

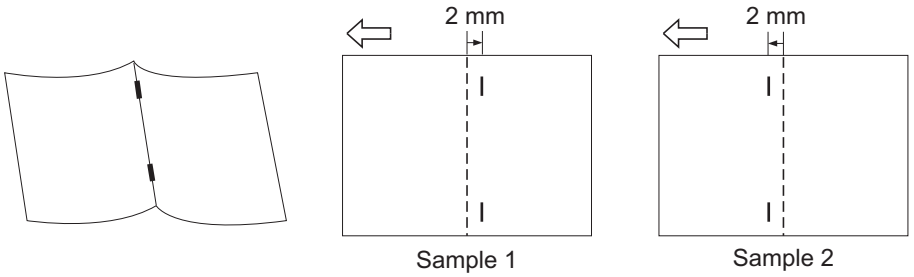


Figure 1-3-5

3. Press the start key. The value is set.

Item No.	Description
U246	**Setting: [Booklet Pos]** 1. Select [Booklet Pos1], [Booklet Pos2] or [Booklet Pos3]. 2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of center folding position for A4/Letter size	-15 to 15	0	0.32 mm
Adjustment of center folding position for B4/Legal size	-15 to 15	0	0.32 mm
Adjustment of center folding position for A3/Ledger size	-15 to 15	0	0.32 mm

When the centerfold position too far right (sample 1), increase the preset value. When the centerfold position too far left (sample 2), decrease the setting value.
Reference value A: A4, Letter: Length of paper × 1/2 ±2 mm
A3, Ledger, B4: Length of paper × 1/2 ±3 mm

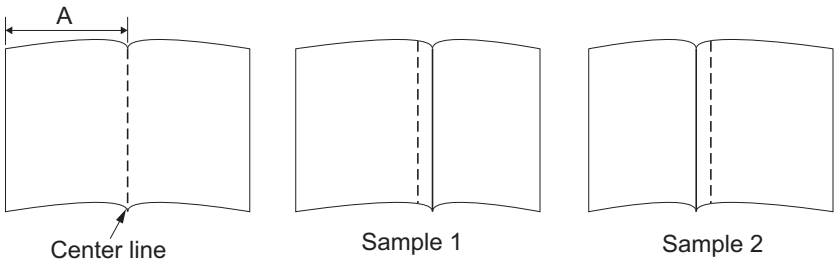


Figure 1-3-6

3. Press the start key. The value is set.

Setting: [Three Fold]
1. Select [Three Fold].
2. Change the setting value using the +/- keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of tri-folding position	-15 to 15	0	0.32 mm

When the tri-fold position too far right (sample 1), increase the preset value. When the tri-fold position too far left (sample 2), decrease the setting value.
Reference value A: 7.0 ±2 mm

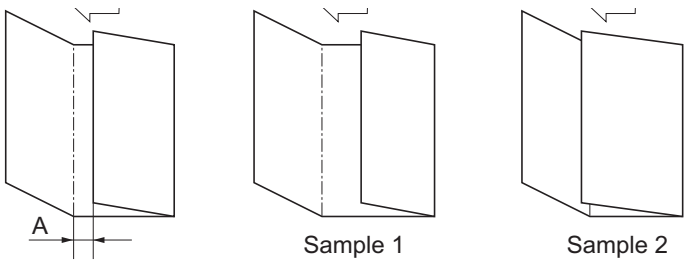


Figure 1-3-7

3. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U905</td><td>
Checking counts by optional devices

Description
Displays the counts of DP, 1000-sheet or 4000-sheet finisher.
Purpose
To check the use of DP, 1000-sheet or 4000-sheet finisher.

Method
1. Press the start key.
2. Select the device, the count of which is to be checked.
The count of the selected device is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>DP</td><td>Counts of DP</td></tr>
<tr><td>DF</td><td>Counts of 1000-sheet or 4000-sheet finisher</td></tr>
</table>
Method: [DP]
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ADP</td><td>No. of single-sided originals that has passed through the DP</td></tr>
<tr><td>RADP</td><td>No. of double-sided originals that has passed through the DP</td></tr>
<tr><td>CIS</td><td>No. of dual scan originals that has passed through the DP</td></tr>
</table>
Method: [DF]
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Sorter</td><td>No. of copies that has passed</td></tr>
<tr><td>Staple</td><td>Frequency the stapler has been activated</td></tr>
<tr><td>Punch</td><td>Frequency the punch has been activated</td></tr>
<tr><td>Stack*</td><td>Frequency the stacker has been activated</td></tr>
<tr><td>Saddle*</td><td>Frequency the saddle eject has been activated</td></tr>
<tr><td>Fold*</td><td>Frequency the center holding has been activated</td></tr>
<tr><td>Three Fold*</td><td>Frequency the tri-holding has been activated</td></tr>
</table>
* : 4000-sheet finisher only

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

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1-4-1 Paper misfeed detection

(1) Paper misfeed indication

When a paper misfeed occurs, the machine immediately stops printing and displays the paper misfeed message on the operation panel. To remove paper misfeed in the machine, pull out the cassette, open the paper conveying unit or paper conveying cover.

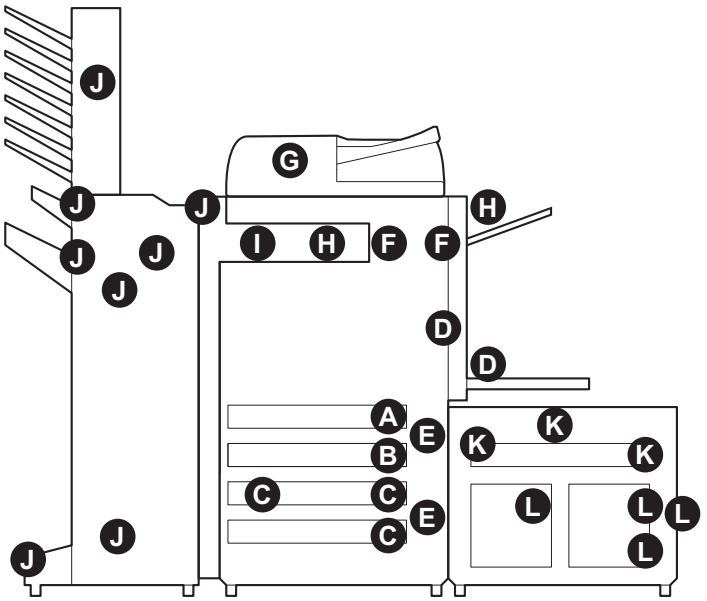

Figure 1-4-1 Paper misfeed indication

A. Misfeed in cassette 1
B. Misfeed in cassette 2
C. Misfeed in cassette 3 or 4 (option)
D. Misfeed in the MP tray
E. Misfeed in paper conveying unit, paper conveying cover or PF paper conveying cover
F. Misfeed in the fuser section
G. Misfeed in document processor (option)
H. Misfeed in job separator (option)
I. Misfeed in bridge unit (option)
J. Misfeed in document finisher
K. Misfeed in cassette 5 (option)
L. Misfeed in cassette 6 or 7 (option)

(2) Paper misfeed detection condition

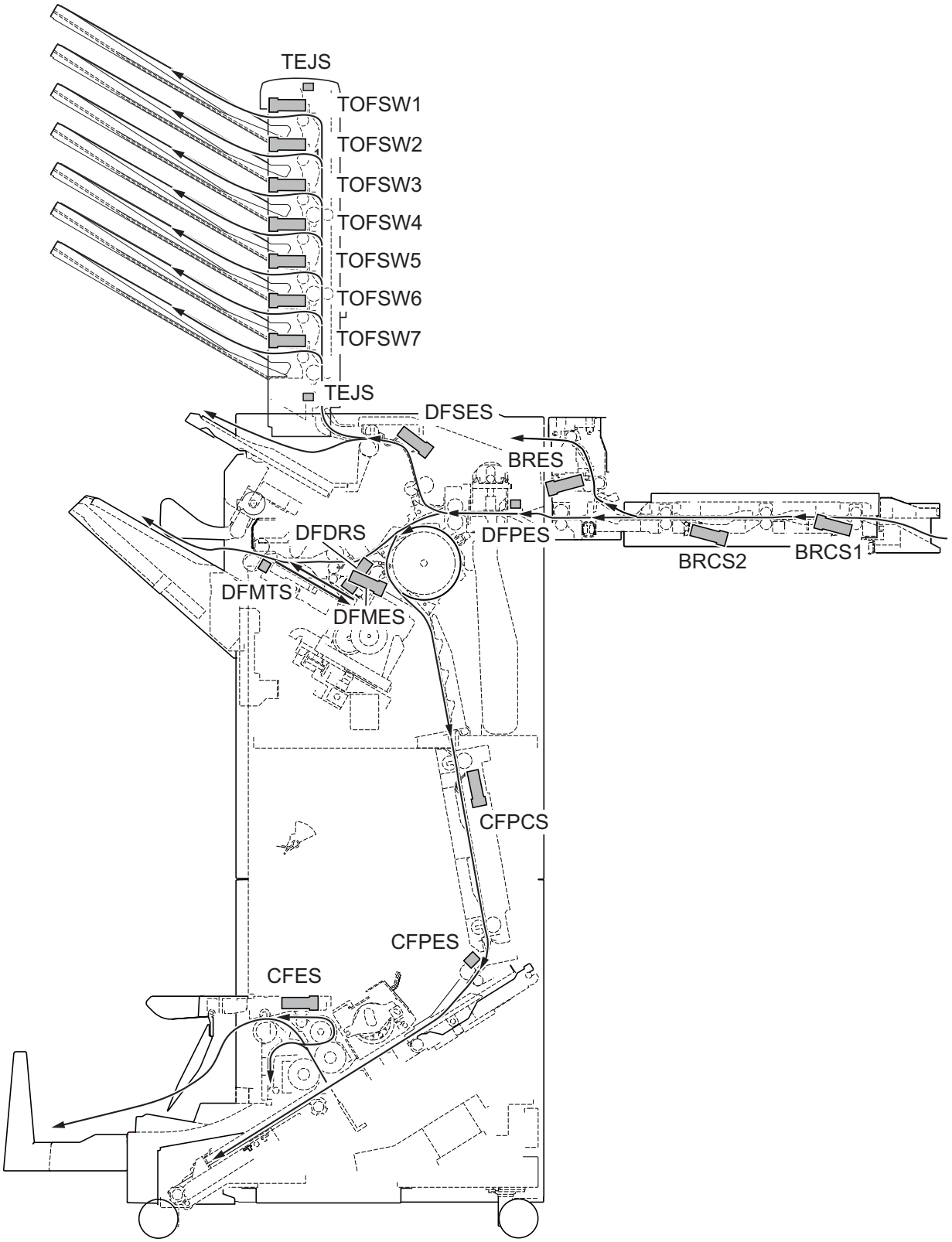

Figure 1-4-2 Paper jam location

Code	Contents	Conditions	Jam location*
0114	Bridge cover open	The bridge cover is opened during printing.	I
0115	Bridge eject cover open	The bridge eject cover is opened during printing.	I
4901	Bridge conveying sensor 1 non arrival jam	Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from cassette 1.	F
4902		Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from cassette 2.	F
4903		Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from cassette 3 (paper feeder).	F
4904		Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from cassette 4 (paper feeder).	F
4905		Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from cassette 5 (SMT paper feeder).	F
4906		Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from cassette 6 (side paper feeder).	F
4907		Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from cassette 7 (side paper feeder).	F
4908		Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from duplex section.	F
4909		Bridge conveying sensor 1 (BRCS1) does not turn on during paper feed from MP tray.	F
4911	Bridge conveying sensor 1 stay jam	Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from cassette 1.	I
4912		Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from cassette 2.	I
4913		Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from cassette 3 (paper feeder).	I
4914		Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from cassette 4 (paper feeder).	I
4915		Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from cassette 5 (SMT paper feeder).	I
4916		Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from cassette 6 (side paper feeder).	I

*: Refer to figure 1-4-1 for paper misfeed indication (see page 1-4-1).

Code	Contents	Conditions	Jam location*
4917	Bridge conveying sensor 1 stay jam	Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from cassette 7 (side paper feeder).	I
4918		Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from duplex section.	I
4919		Bridge conveying sensor 1 (BRCS1) does not turn off during paper feed from MP tray.	I
5001	Bridge conveying sensor 2 non arrival jam	Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from cassette 1.	I
5002		Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from cassette 2.	I
5003		Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from cassette 3 (paper feeder).	I
5004		Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from cassette 4 (paper feeder).	I
5005		Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from cassette 5 (SMT paper feeder).	I
5006		Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from cassette 6 (side paper feeder).	I
5007		Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from cassette 7 (side paper feeder).	I
5008		Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from duplex section.	I
5009		Bridge conveying sensor 2 (BRCS2) does not turn on during paper feed from MP tray.	I
5011	Bridge conveying sensor 2 stay jam	Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from cassette 1.	I
5012		Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from cassette 2.	I
5013		Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from cassette 3 (paper feeder).	I
5014		Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from cassette 4 (paper feeder).	I
5015		Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from cassette 5 (SMT paper feeder).	I

*: Refer to figure 1-4-1 for paper misfeed indication (see page 1-4-1).

Code	Contents	Conditions	Jam location*
5016	Bridge conveying sensor 2 stay jam	Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from cassette 6 (side paper feeder).	I
5017		Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from cassette 7 (side paper feeder).	I
5018		Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from duplex section.	I
5019		Bridge conveying sensor 2 (BRCS2) does not turn off during paper feed from MP tray.	I
5101	Bridge eject sensor non arrival jam	Bridge eject sensor (BRES) does not turn on during paper feed from cassette 1.	I
5102		Bridge eject sensor (BRES) does not turn on during paper feed from cassette 2.	I
5103		Bridge eject sensor (BRES) does not turn on during paper feed from cassette 3 (paper feeder).	I
5104		Bridge eject sensor (BRES) does not turn on during paper feed from cassette 4 (paper feeder).	I
5105		Bridge eject sensor (BRES) does not turn on during paper feed from cassette 5 (SMT paper feeder).	I
5106		Bridge eject sensor (BRES) does not turn on during paper feed from cassette 6 (side paper feeder).	I
5107		Bridge eject sensor (BRES) does not turn on during paper feed from cassette 7 (side paper feeder).	I
5108		Bridge eject sensor (BRES) does not turn on during paper feed from duplex section.	I
5109		Bridge eject sensor (BRES) does not turn on during paper feed from MP tray.	I
5111	Bridge eject sensor stay jam	Bridge eject sensor (BRES) does not turn off during paper feed from cassette 1.	I
5112		Bridge eject sensor (BRES) does not turn off during paper feed from cassette 2.	I
5113		Bridge eject sensor (BRES) does not turn off during paper feed from cassette 3 (paper feeder).	I
5114		Bridge eject sensor (BRES) does not turn off during paper feed from cassette 4 (paper feeder).	I
5115		Bridge eject sensor (BRES) does not turn off during paper feed from cassette 5 (SMT paper feeder).	I

*: Refer to figure 1-4-1 for paper misfeed indication (see page 1-4-1).

Code	Contents	Conditions	Jam location*
5116	Bridge eject sensor stay jam	Bridge eject sensor (BRES) does not turn off during paper feed from cassette 6 (side paper feeder).	I
5117		Bridge eject sensor (BRES) does not turn off during paper feed from cassette 7 (side paper feeder).	I
5118		Bridge eject sensor (BRES) does not turn off during paper feed from duplex section.	I
5119		Bridge eject sensor (BRES) does not turn off during paper feed from MP tray.	I
6000	DF paper entry error	DF paper entry sensor (DFPES) turns on before the eject signal is output from the machine (4000-sheet finisher).	J
6001		DF paper entry sensor (DFPES) turns on before the eject signal is output from the machine (1000-sheet finisher).	J
6020	DF front cover open	DF front upper cover is opened during operation (4000-sheet finisher)	J
6021		DF front cover is opened during operation (1000-sheet finisher)	J
6041	DF top cover open	DF top cover is opened during operation (1000-sheet finisher)	J
6050	CF eject cover open	CF eject cover is opened during operation (4000-sheet finisher)	J
6060	MB cover open	MB cover is opened during operation (4000-sheet finisher)	J
6070	Center folding unit open	Center folding unit is opened during operation (4000-sheet finisher)	J
6080	CF left guide open	CF left guide is opened during operation (4000-sheet finisher)	J
6100	DF paper entry sensor non arrival jam	DF paper entry sensor (DFPES) is not turned on even if a specified time has elapsed after the machine eject signal was received (4000-sheet finisher).	J
6101		DF paper entry sensor (DFPES) is not turned on even if a specified time has elapsed after the machine eject signal was received (1000-sheet finisher).	J

*: Refer to figure 1-4-1 for paper misfeed indication (see page 1-4-1).

Code	Contents	Conditions	Jam location*
6110	DF paper entry sensor stay jam	DF paper entry sensor (DFPES) is not turned off within specified time of its turning on (4000-sheet finisher).	J
6111		DF paper entry sensor (DFPES) is not turned off within specified time of its turning on (1000-sheet finisher).	J
6120	DF paper entry sensor remaining jam	DF paper entry sensor (DFPES) does turned on when the power is turned on or cover close (4000-sheet finisher).	J
6121		DF paper entry sensor (DFPES) does turned on when the power is turned on or cover close (1000-sheet finisher).	J
6200	DF sub eject sensor non arrival jam	DF sub eject sensor (DFSES) does not turn on within specified time of DF paper entry sensor (DFPES) turning on.	J
6210	DF sub eject sensor stay jam	DF sub eject sensor (DFSES) is not turned off within specified time of its turning on.	J
6220	DF sub eject sensor remaining jam	DF sub eject sensor (DFSES) does turned on when the power is turned on or cover close.	J
6300	DF middle eject sensor non arrival jam	DF middle eject sensor (DFMES) does not turn on within specified time of DF paper entry sensor (DFPES) turning on (4000-sheet finisher).	J
6301		DF middle eject sensor (DFMES) does not turn on within specified time of DF paper entry sensor (DFPES) turning on (1000-sheet finisher).	J
6310	DF middle eject sensor stay jam	DF middle eject sensor (DFMES) is not turned off within specified time of its turning on (4000-sheet finisher).	J
6311		DF middle eject sensor (DFMES) is not turned off within specified time of its turning on (1000-sheet finisher).	J
6320	DF middle eject sensor remaining jam	DF middle eject sensor (DFMES) does turned on when the power is turned on or cover close (4000-sheet finisher).	J
6321		DF middle eject sensor (DFMES) does turned on when the power is turned on or cover close (1000-sheet finisher).	J
6400	DF tray upper surface sensor non arrival jam	DF tray upper surface sensor (DFTUSS) does not turn on within specified time of DF middle eject sensor (DFMES) turning on (4000-sheet finisher).	J
6401		DF tray upper surface sensor (DFTUSS) does not turn on within specified time of DF middle eject sensor (DFMES) turning on (1000-sheet finisher).	J

*: Refer to figure 1-4-1 for paper misfeed indication (see page 1-4-1).

Code	Contents	Conditions	Jam location*
6410	DF tray upper surface sensor stay jam	DF tray upper surface sensor (DFTUSS) is not turned off within specified time of its turning on (4000-sheet finisher).	J
6411		DF tray upper surface sensor (DFTUSS) is not turned off within specified time of its turning on (1000-sheet finisher).	J
6420	DF tray upper surface sensor remaining jam	DF tray upper surface sensor (DFTUSS) does turned on when the power is turned on or cover close (4000-sheet finisher).	J
6421		DF tray upper surface sensor (DFTUSS) does turned on when the power is turned on or cover close (1000-sheet finisher).	J
6500	DF bundle discharge sensor non arrival jam	DF bundle discharge sensor (DFBDS) does not turn on within specified time of DF middle eject sensor (DFMES) turning on.	J
6510	DF bundle discharge sensor stay jam	DF bundle discharge sensor (DFBDS) is not turned off since the bundle discharge starts (4000-sheet finisher).	J
6511		DF bundle discharge sensor (DFBDS) is not turned off since the bundle discharge starts (1000-sheet finisher).	J
6600	DF drum sensor non arrival jam	DF drum sensor (DFDRS) does not turn on within specified time of DF paper entry sensor (DFPES) turning on.	J
6610	DF drum sensor stay jam	DF drum sensor (DFDRS) is not turned off within specified time of its turning on.	J
6620	DF drum sensor remaining jam	DF drum sensor (DFDRS) does turned on when the power is turned on or cover close.	J
6710	Center folding unit stay jam	During paper conveying to center folding unit, DF drum sensor (DFDRS) is not turned off within specified time of its turning on.	J
6810	DF side registration sensor 1 stay jam	DF side registration sensor 1 (DFSRS1) is not turned off within specified time after driving the DF side registration motor 1 (DFSRM1) (4000-sheet finisher).	J
6811		DF side registration sensor 1 (DFSRS1) is not turned off within specified time after driving the DF side registration motor 1 (DFSRM1) (1000-sheet finisher).	J

*: Refer to figure 1-4-1 for paper misfeed indication (see page 1-4-1).

Code	Contents	Conditions	Jam location*
6910	DF side registration sensor 2 stay jam	DF side registration sensor 2 (DFSRS2) is not turned off within specified time after driving the DF side registration motor 2 (DFSRM2) (4000-sheet finisher).	J
6911		DF side registration sensor 2 (DFSRS2) is not turned off within specified time after driving the DF side registration motor 2 (DFSRM2) (1000-sheet finisher).	J
7000	DF staple operation error	DF staple sensor (DFSTS) is not turned on within specified time after driving the DF staple motor (DFSTM) (4000-sheet finisher).	J
7001		DF staple sensor (DFSTS) is not turned on within specified time after driving the DF staple motor (DFSTM) (1000-sheet finisher).	J
7100	CF paper entry sensor non arrival jam	CF paper entry sensor (CFPES) is not turned on even if a specified time has elapsed after the machine eject signal was received.	J
7110	CF paper entry sensor stay jam	CF paper entry sensor (CFPES) is not turned off within specified time of its turning on.	J
7120	CF paper entry sensor remaining jam	CF paper entry sensor (CFPES) does turned on when the power is turned on or cover close.	J
7200	CF eject sensor non arrival jam	CF eject sensor (CFES) is not turned on within specified time since centerfold operation starts.	J
7210	CF eject sensor stay jam	During centerfold operation, CF eject sensor (CFES) is not turned off within specified time of its turning on.	J
7220	CF eject sensor remaining jam	CF eject sensor (CFES) does turned on when the power is turned on or cover close.	J
7300	CF eject sensor non arrival jam	CF eject sensor (CFES) is not turned on within specified time since three fold operation starts.	J
7310	CF eject sensor stay jam	During three fold operation, CF eject sensor (CFES) is not turned off within specified time of its turning on.	J
7400	CF side registration sensor 2 non arrival jam	CF side registration sensor 2 (CFSRS2) is not turned on within specified time after driving the CF side registration motor 2 (CFSRM2).	J
7500	CF side registration sensor 1 non arrival jam	CF side registration sensor 1 (CFSRS1) is not turned on within specified time after driving the CF side registration motor 1 (CFSRM1).	J
7600	CF staple operation error	CF staple sensor (CFSTS) is not turned on within specified time after driving the CF staple motor (CFSTM).	J

*: Refer to figure 1-4-1 for paper misfeed indication (see page 1-4-1).

Code	Contents	Conditions	Jam location*
7720	CF paper sensor remaining jam	CF paper sensor (CFPS) does turned on when the power is turned on or cover close.	J
7800	MB eject sensor non arrival jam	MB eject sensor (MBES) is not turned on even if a specified time has elapsed after the machine eject signal was received.	J
7810	MB eject sensor stay jam	MB eject sensor (MBES) is not turned off within specified time of its turning on.	J
7820	MB eject sensor remaining jam	MB eject sensor (MBES) does turned on when the power is turned on or cover close.	J
7950	Paper interval error jam	An illegal inter-page or inter-copy interval has occurred (4000-sheet finisher).	J
7951		An illegal inter-page or inter-copy interval has occurred (1000-sheet finisher).	J

*: Refer to figure 1-4-1 for paper misfeed indication (see page 1-4-1).

1-4-2 Self-diagnostic function

(1) Self-diagnostic function

This machine is equipped with self-diagnostic function. When a problem is detected, the machine stops printing and display an error message on the operation panel. An error message consists of a message prompting a contact to service personnel and a four-digit error code indicating the type of the error.

(2) Self diagnostic codes

If the part causing the problem was not supplied, use the unit including the part for replacement.

Code	Contents	Causes	Check procedures/ corrective measures
8010	**Punch motor error 1** When the punch motor is driven, punch home position sensor does not turn on within 200 ms.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch motor and punch PWB (YC4) Punch home position sensor and punch PWB (YC8) Punch PWB (YC1) and DF main PWB (YC7)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch motor and punch PWB (YC4) Punch home position sensor and punch PWB (YC8) Punch PWB (YC1) and DF main PWB (YC8)
		Defective punch home position sensor.	Replace the punch home position sensor.
		Defective punch motor.	Replace the punch motor.
		Defective PWB.	Replace the punch PWB or DF main PWB and check for correct operation.
8020	**Punch motor error 2** Home position is not obtained in 3 seconds after home position is initialized or in standby.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch motor and punch PWB (YC4) Punch PWB (YC1) and DF main PWB (YC7)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch motor and punch PWB (YC4) Punch PWB (YC1) and DF main PWB (YC8)
		Defective punch motor.	Replace the punch motor.
		Defective PWB.	Replace the punch PWB or DF main PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
8030	**Punch motor error 3** Home position does not turn from On to Off in 50 ms after home position has been initialized.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch motor and punch PWB (YC4) Punch PWB (YC1) and DF main PWB (YC7)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch motor and punch PWB (YC4) Punch PWB (YC1) and DF main PWB (YC8)
		Defective punch motor.	Replace the punch motor.
		Defective PWB.	Replace the punch PWB or DF main PWB and check for correct operation. (see page 1-5-2)
8090	**DF paddle motor error** When the DF paddle motor is driven, DF paddle sensor does not turn on within 1 s.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF paddle motor and DF main PWB (YC15) DF paddle sensor and DF main PWB (YC22)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF paddle motor and DF main PWB (YC11) DF paddle sensor and DF main PWB (YC20)
		Defective DF paddle sensor.	Replace the DF paddle sensor.
		Defective DF paddle motor.	Replace the DF paddle motor.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)

Code	Contents	Causes	Check procedures/ corrective measures
8100	**DF eject release motor error** When the DF eject release motor is driven, DF bundle discharge sensor does not turn on within 1 s.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF eject release motor and DF main PWB (YC12) DF bundle discharge sensor and DF main PWB (YC22)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF eject release motor and DF main PWB (YC10) DF bundle discharge sensor and DF main PWB (YC20)
		Defective DF bundle discharge sensor.	Replace the DF bundle discharge sensor.
		Defective DF eject release motor.	Replace the DF eject release motor.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)
8110	**DF shift motor 1 error** When the DF shift motor 1 is driven, DF shift sensor 1 does not turn on within 160 ms.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF shift motor 1 and DF main PWB (YC14) DF shift sensor 1 and DF main PWB (YC23)
		Defective DF shift sensor 1.	Replace the DF shift sensor 1.
		Defective DF shift motor 1.	Replace the DF shift motor 1.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)
8120	**DF shift motor 2 error** When the DF shift motor 2 is driven, DF shift sensor 2 does not turn on within 160 ms.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF shift motor 2 and DF main PWB (YC14) DF shift sensor 2 and DF main PWB (YC23)
		Defective DF shift sensor 2.	Replace the DF shift sensor 2.
		Defective DF shift motor 2.	Replace the DF shift motor 2.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)

Code	Contents	Causes	Check procedures/ corrective measures
8130	**DF shift release motor error** When the DF shift release motor is driven, DF shift release sensor does not turn on within 1 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF shift release motor and DF main PWB (YC14) DF shift release sensor and DF main PWB (YC23)
		Defective DF shift release sensor.	Replace the DF shift release sensor.
		Defective DF shift release motor.	Replace the DF shift release motor.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)
8140	**DF tray motor error 1** When the main tray has started ascending, DF tray sensor 1 or DF tray upper surface sensor does not turn on within 20 s.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF tray motor and DF main PWB (YC16) DF tray sensor 1 and DF main PWB (YC22) DF tray upper surface sensor and DF main PWB (YC21, YC13)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF tray motor and DF main PWB (YC14) DF tray sensor 1 and DF main PWB (YC20) DF tray upper surface sensor and DF main PWB (YC18)
		Defective sensor.	Replace DF tray sensor 1 or DF tray upper surface sensor.
		Defective DF tray motor.	Replace the DF tray motor.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)

Code	Contents	Causes	Check procedures/ corrective measures
8150	**DF tray motor error 2** When the main tray has descended, DF tray sensor 1 or DF tray upper surface sensor does not turn off within 5 s.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF tray motor and DF main PWB (YC16) DF tray sensor 1 and DF main PWB (YC22) DF tray upper surface sensor and DF main PWB (YC21, YC13)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF tray motor and DF main PWB (YC14) DF tray sensor 1 and DF main PWB (YC20) DF tray upper surface sensor and DF main PWB (YC18)
		Defective sensor.	Replace DF tray sensor 1 or DF tray upper surface sensor.
		Defective DF tray motor.	Replace the DF tray motor.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)
8160	**DF tray motor error 3** When the main tray has descended, DF tray sensor 3 does not turn on within 20 s.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF tray motor and DF main PWB (YC16) DF tray sensor 3 and DF main PWB (YC23)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF tray motor and DF main PWB (YC14) DF tray sensor 3 and DF main PWB (YC20)
		Defective DF tray sensor 3.	Replace DF tray sensor 3.
		Defective DF tray motor.	Replace the DF tray motor.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)

Code	Contents	Causes	Check procedures/ corrective measures
8170	**DF side registration motor 1 error 1** When initial operation, DF side registration sensor 1 does not turn on within 3 s.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 1 and DF main PWB (YC15) DF side registration sensor 1 and DF main PWB (YC22)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 1 and DF main PWB (YC11) DF side registration sensor 1 and DF main PWB (YC20)
		Defective DF side registration sensor 1.	Replace DF side registration sensor 1.
		Defective DF side registration motor 1.	Replace DF side registration motor 1.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)
8180	**DF side registration motor 1 error 2** JAM6810 is detected twice.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 1 and DF main PWB (YC15) DF side registration sensor 1 and DF main PWB (YC22)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 1 and DF main PWB (YC11) DF side registration sensor 1 and DF main PWB (YC20)
		Defective DF side registration sensor 1.	Replace DF side registration sensor 1.
		Defective DF side registration motor 1.	Replace DF side registration motor 1.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)

Code	Contents	Causes	Check procedures/ corrective measures
8190	**DF side registration motor 2 error 1** When initial operation, DF side registration sensor 2 does not turn on within 3 s.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 2 and DF main PWB (YC15) DF side registration sensor 2 and DF main PWB (YC22)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 2 and DF main PWB (YC11) DF side registration sensor 2 and DF main PWB (YC20)
		Defective DF side registration sensor 2.	Replace DF side registration sensor 2.
		Defective DF side registration motor 2.	Replace DF side registration motor 2.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)
8200	**DF side registration motor 2 error 2** JAM6910 is detected twice.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 2 and DF main PWB (YC15) DF side registration sensor 2 and DF main PWB (YC22)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 2 and DF main PWB (YC11) DF side registration sensor 2 and DF main PWB (YC20)
		Defective DF side registration sensor 2.	Replace DF side registration sensor 2.
		Defective DF side registration motor 2.	Replace DF side registration motor 2.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)

Code	Contents	Causes	Check procedures/ corrective measures
8210	**DF slide motor error** When initial operation, DF staple sensor does not turn on within 3 s.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF slide motor and DF main PWB (YC12) DF staple sensor and DF main PWB (YC22)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF slide motor and DF main PWB (YC10) DF staple sensor and DF main PWB (YC20)
		Defective DF staple sensor.	Replace the DF staple sensor.
		Defective DF slide motor.	Replace the DF slide motor.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)
8230	**DF staple motor error** JAM7000 is detected twice.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Staple unit and DF main PWB (YC17)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Staple unit and DF main PWB (YC11)
		Defective DF staple sensor.	Replace the staple unit.
		Defective DF staple motor.	
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)
8300	**Center-folding unit communication error** Communication with the center-folding unit is not possible.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF main PWB (YC7) and DF main PWB (YC9)
		Defective CF set sensor.	Replace the CF set sensor.
		Defective PWB.	Replace the CF main PWB or the DF main PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
8310	**CF side registration motor 2 error** When initial operation, CF side registration sensor 2 does not turn on within 1 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF side registration motor 2 and CF main PWB (YC10) CF side registration sensor 2 and CF main PWB (YC20)
		Defective CF side registration sensor 2.	Replace CF side registration sensor 2.
		Defective CF side registration motor 2.	Replace CF side registration motor 2.
		Defective CF main PWB.	Replace the CF main PWB and check for correct operation.
8320	**CF adjustment motor error** When initial operation, CF adjustment sensor does not turn on within 2.5 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF adjustment motor 1, 2 and CF main PWB (YC10) CF adjustment sensor 1, 2 and CF main PWB (YC20)
		Defective CF adjustment sensor 1, 2.	Replace CF adjustment sensor 1, 2.
		Defective CF adjustment motor 1, 2.	Replace CF adjustment motor 1, 2.
		Defective CF main PWB.	Replace the CF main PWB and check for correct operation.
8330	**CF blade motor error** When initial operation, CF blade sensor does not turn on within 1.5 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF blade motor and CF main PWB (YC15) CF blade sensor and CF main PWB (YC20)
		Defective CF blade sensor.	Replace the CF blade sensor.
		Defective CF blade motor.	Replace the CF blade motor.
		Defective CF main PWB.	Replace the CF main PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
8340	**CF staple motor error** JAM7600 is detected twice.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF staple unit and CF main PWB (YC13)
		Defective CF staple sensor.	Replace the CF staple unit.
		Defective CF staple motor.	
		Defective CF main PWB.	Replace the CF main PWB and check for correct operation.
8350	**CF side registration motor 1 error** When initial operation, CF side registration sensor 1 does not turn on within 1 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF side registration motor 1 and CF main PWB (YC10) CF side registration sensor 1 and CF main PWB (YC20)
		Defective CF side registration sensor 1.	Replace CF side registration sensor 1.
		Defective CF side registration motor 1.	Replace CF side registration motor 1.
		Defective CF main PWB.	Replace the CF main PWB and check for correct operation.
8360	**CF main motor error** During driving the motor, lock signal is detected for 1 s continuously.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF main motor and CF main PWB (YC16)
		Defective CF main motor.	Replace the CF main motor.
		Defective CF main PWB.	Replace the CF main PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
8410	**Punch slide motor error 1** The punch slide sensor won't turn On when home position has been moved by 30 mm.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch slide motor and punch PWB (YC3) Punch slide sensor and punch PWB (YC6) Punch PWB (YC1) and DF main PWB (YC7)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch slide motor and punch PWB (YC3) Punch slide sensor and punch PWB (YC6) Punch PWB (YC1) and DF main PWB (YC8)
		Defective slide sensor.	Replace the punch slide sensor.
		Defective punch slide motor.	Replace the punch slide motor.
		Defective PWB.	Replace the punch PWB or DF main PWB and check for correct operation. (see page 1-5-2)
8420	**Punch slide motor error 2** In detection of paper edges, the paper edge cannot be detected in 30 mm move.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch slide motor and punch PWB (YC3) Punch PWB (YC1) and DF main PWB (YC7)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch slide motor and punch PWB (YC3) Punch PWB (YC1) and DF main PWB (YC8)
		Defective punch slide motor.	Replace the punch slide motor.
		Defective PWB.	Replace the punch PWB or DF main PWB and check for correct operation. (see page 1-5-2)

Code	Contents	Causes	Check procedures/ corrective measures
8430	**Punch unit communication error** Communication with the punch unit is not possible.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch PWB (YC1) and DF main PWB (YC7)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch PWB (YC1) and DF main PWB (YC8)
		Defective PWB.	Replace the punch PWB or the DF main PWB and check for correct operation. (see page 1-5-2)
8500	**Mailbox communication error** Communication with the mailbox is not possible.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. MB main PWB (YC3) and DF main PWB (YC6)
		Defective PWB.	Replace the MB main PWB or the DF main PWB and check for correct operation. (see page 1-5-2)
8510	**MB conveying motor error 1** When initial operation, MB home position sensor does not turn on within 5 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. MB conveying motor and MB main PWB (YC5) MB home position sensor and MB main PWB (YC2)
		Defective MB home position sensor.	Replace the MB home position sensor.
		Defective MB conveying motor.	Replace the MB conveying motor.
		Defective MB main PWB.	Replace the MB main PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
8520	**MB conveying motor error 2** When standby operation, MB home position sensor does not turn off within 1 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. MB conveying motor and MB main PWB (YC5) MB home position sensor and MB main PWB (YC2)
		Defective MB home position sensor.	Replace the MB home position sensor.
		Defective MB conveying motor.	Replace the MB conveying motor.
		Defective MB main PWB.	Replace the MB main PWB and check for correct operation.
8800	**Document finisher communication error** Communication with the document finisher is not possible.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF main PWB (YC4) and engine PWB (YC18)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF main PWB (YC7) and engine PWB (YC18)
		Defective PWB.	Replace the DF main PWB or the engine PWB and check for correct operation. (see page 1-5-2)
8900	**Document finisher backup error** Read and write data does not match 3 times in succession.	Defective connector cable or poor contact in the connector (4000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF main PWB (YC4) and engine PWB (YC18)
		Defective connector cable or poor contact in the connector (1000-sheet finisher).	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF main PWB (YC7) and engine PWB (YC18)
		Improper installation EEPROM.	Check the installation of the EEPROM and remedy if necessary.
		Defective DF main PWB.	Replace the DF main PWB and check for correct operation.(see page 1-5-2)

Code	Contents	Causes	Check procedures/ corrective measures
8930	**Center-folding unit backup error** Read and write data does not match 3 times in succession.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF main PWB (YC7) and DF main PWB (YC9)
		Improper installation EEPROM.	Check the installation of the EEPROM and remedy if necessary.
		Defective CF main PWB.	Replace the CF main PWB and check for correct operation.

1-4-3 Electric problems

If the part causing the problem was not supplied, use the unit including the part for replacement.
Troubleshooting to each failure must be in the order of the numbered symptoms.

Problem	Causes	Check procedures/corrective measures
(1) DF paper entrance motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF paper entrance motor and DF main PWB (YC12)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF paper entrance motor.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation. (see page 1-5-2)
(2) DF middle motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF middle eject motor and DF main PWB (YC12)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF middle eject motor.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation. (see page 1-5-2)
(3) DF paddle motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF paddle motor and DF main PWB (YC15)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF paddle motor.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation (see page 1-5-2).
(4) DF eject release motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF eject release motor and DF main PWB (YC12)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF eject release motor.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation. (see page 1-5-2)

Problem	Causes	Check procedures/corrective measures
(5) DF eject motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF eject motor and DF main PWB (YC12)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF eject motor.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation (see page 1-5-2).
(6) DF side registration motor 1,2 does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF side registration motor 1,2 and DF main PWB (YC15)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF side registration motor 1,2.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation (see page 1-5-2).
(7) DF drum motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF drum motor and DF main PWB (YC18)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF drum motor.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation(see page 1-5-2).
(8) DF tray motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF tray motor and DF main PWB (YC19)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF tray motor.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation (see page 1-5-2).

Problem	Causes	Check procedures/corrective measures
(9) DF shift release motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF shift release motor and DF main PWB (YC14)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF shift release motor.
	4. Defective PWB.	Replace the DF main PWB and check for correct operation. (see page 1-5-2)
(10) DF shift motor 1,2 does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF shift motor 1,2 and DF main PWB (YC14)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF shift motor 1,2.
	4. Defective PWB.	Replace the bridge PWB and check for correct operation. (see page 1-5-2)
(11) DF staple motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF staple motor and DF main PWB (YC17)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF staple unit.(see page 1-5-4)
	4. Defective PWB.	Replace the DF main PWB and check for correct operation. (see page 1-5-2)
(12) DF slide motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF slide motor and DF main PWB (YC12)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the DF slide motor
	4. Defective PWB.	Replace the DF main PWB and check for correct operation. (see page 1-5-2)
(13) DF feedshift solenoid 1,2,3 does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF feedshift solenoid 1,2,3 and DF main PWB (YC18)
	2. Defective solenoid.	Replace the DF feedshift solenoid 1,2,3.
	3. Defective PWB.	Replace the DF main PWB and check for correct operation (see page 1-5-2).

Problem	Causes	Check procedures/corrective measures
(14) DF eject clutch does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. DF eject clutch and DF main PWB (YC14)
	2. Defective solenoid.	Replace the DF eject clutch.
	3. Defective PWB.	Replace the DF main PWB and check for correct operation (see page 1-5-2).
(15) Bridge conveying motor1,2 does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Bridge conveying motor1,2 and bridge PWB (YC7)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the bridge conveying motor1,2.
	4. Defective PWB.	Replace the bridge PWB and check for correct operation.
(16) Bridge solenoid does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Bridge solenoid and engine PWB (YC20)
	2. Defective solenoid.	Replace the bridge solenoid.
	3. Defective PWB.	Replace the engine PWB and check for correct operation.
(17) CF main motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF main motor and CF main PWB (YC16)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the CF main motor.
	4. Defective PWB.	Replace the CF main PWB and check for correct operation.
(18) CF adjustment motor 1,2 does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF adjustment motor 1,2 and CF main PWB (YC10)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the CF adjustment motor 1,2.
	4. Defective PWB.	Replace the CF main PWB and check for correct operation.
(19) CF side registration motor 1,2 does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF side registration motor 1,2 and CF main PWB (YC10)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the CF side registration motor 1,2.
	4. Defective PWB.	Replace the CF main PWB and check for correct operation.

Problem	Causes	Check procedures/corrective measures
(20) CF paper entry motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF paper entry motor and CF main PWB (YC10)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the CF paper entry motor.
	4. Defective PWB.	Replace the CF main PWB and check for correct operation.
(21) CF staple motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF staple motor and CF main PWB (YC13)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the CF staple motor.
	4. Defective PWB.	Replace the CF main PWB and check for correct operation.
(22) CF feedshift solenoid does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CF feedshift solenoid and DF main PWB (YC17)
	2. Defective solenoid.	Replace the CF feedshift solenoid.
	3. Defective PWB.	Replace the CF main PWB and check for correct operation.
(23) Mailbox drive motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Mailbox drive motor and CF main PWB (YC5)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the Mailbox drive motor.
	4. Defective PWB.	Replace the Mailbox main PWB and check for correct operation.
(24) Punch motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch motor and Punch PWB (YC4)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the Punch motor.
	4. Defective PWB.	Replace the Punch PWB and check for correct operation.

Problem	Causes	Check procedures/corrective measures
(25) Punch slide motor does not operate.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Punch slide motor and Punch PWB (YC3)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	3. Defective motor.	Replace the Punch slide motor.
	4. Defective PWB.	Replace the Punch PWB and check for correct operation.
(26) A paper jam is indicated when the main power switch is turned on.	1. A piece of paper torn from paper is caught around sensor. **Bridge to DF** Bridge conveying sensor1,2 or bridge eject sensor,DF paper entrance sensor, DF middle sensor, DF eject paper sensor, DF sub eject sensor, DF drum sensor **Center-folding unit** CF paper conveying sensor,CF paper entry sensor CF eject sensor **Mail box** Tray overflow switch 1 to 7,Tray eject sensor	Check visually and remove it, if any.
	2. Defective sensor.	Replace the bridge conveying sensor1,2 or bridge eject sensor,DF paper entrance sensor, DF middle sensor, DF eject paper sensor, DF sub eject sensor, DF drum sensor(Bridge,DF),CF paper conveying sensor,CF paper entry sensor CF eject sensor(Center-folding unit),Tray overflow switch 1 to 7 or Tray eject sensor(Mail box).
(27) [Out of staples. Add staples.] is displayed when the main power switch is turned on.	1. Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Stapler empty sensor and DF main PWB (YC12)
	2. Defective stapler empty sensor.	Replace the staple unit. (see page 1-5-4)
	3. Defective PWB.	Replace the DF main PWB and check for correct operation. (see page 1-5-2)

1-4-4 Mechanical problems

If the part causing the problem was not supplied, use the unit including the part for replacement.

Problem	Causes/check procedures	Corrective measures
(1) Paper jams. (Bridge unit)	Paper outside specifications is used.	Use only paper conforming to the specifications.
	Check if the surfaces of the following rollers are dirty with paper powder. Paper conveying roller Paper conveying pulley Feedshift roller Feedshift pulley Eject roller 1,2 Eject pulley 1,2	Clean with isopropyl alcohol.
	Check if the contact between the paper conveying roller and paper conveying pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the feedshift roller and feedshift pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the eject roller 1,2 and eject pulley 1,2 is correct.	Check visually and remedy if necessary.
(2) Paper jams. (Finisher)	Paper outside specifications is used.	Use only paper conforming to the specifications.
	Check if the surfaces of the following rollers are dirty with paper powder. Paper entry roller Paper entry pulley Middle roller Middle pulley Main tray eject roller Eject pulley Left sub tray feed roller Feed pulley Left sub tray eject roller Eject pulley	Clean with isopropyl alcohol.
	Check if the contact between the paper entry roller and paper entry pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the middle roller and middle pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the Main tray eject roller and eject pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the left sub tray feed roller and feed pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the Left sub tray eject roller and eject pulley is correct.	Check visually and remedy if necessary.

Problem	Causes/check procedures	Corrective measures
(3) Paper jams. (Center-folding unit)	Paper outside specifications is used.	Use only paper conforming to the specifications.
	Check if the surfaces of the following rollers are dirty with paper powder. CF paper conveying roller 1 CF paper conveying pulley CF paper conveying roller 2 CF paper conveying pulley CF paper entry roller CF paper entry pulley CF paper conveying roller 3 CF paper conveying pulley CF eject roller CF eject pulley	Clean with isopropyl alcohol.
	Check if the contact between the CF paper conveying roller 1,2,3 and CF paper conveying pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the CF paper entry roller and CF paper entry pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the CF eject roller and CF eject pulley is correct.	Check visually and remedy if necessary.
(4) Paper jams. (Mail box)	Paper outside specifications is used.	Use only paper conforming to the specifications.
	Check if the surfaces of the following rollers are dirty with paper powder. Paper conveying rollers Paper conveying pulleys Eject roller Eject pulley	Clean with isopropyl alcohol.
	Check if the contact between the Paper conveying rollers and Paper conveying pulleys is correct.	Check visually and remedy if necessary.
	Check if the contact between the Eject roller and Eject pulley is correct.	Check visually and remedy if necessary.
Abnormal noise is heard.	Check if the rollers, pulleys and gears operate smoothly.	Grease the bushes and gears.

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1-5-1 Precautions for assembly and disassembly

(1) Precautions

Before starting disassembly, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
When handling PWBs (printed wiring boards), do not touch parts with bare hands.
The PWBs are susceptible to static charge.
Do not touch any PWB containing ICs with bare hands or any object prone to static charge.
When removing the hook of the connector, be sure to release the hook.
Take care not to get the cables caught.
To reassemble the parts, use the original screws. If the types and the sizes of screws are not known, refer to the PARTS LIST.

1-5-2 Document finisher section

(1) Detaching and refitting the PF main PWB

Procedure

1. Remove screw and then remove the lid rear cover.

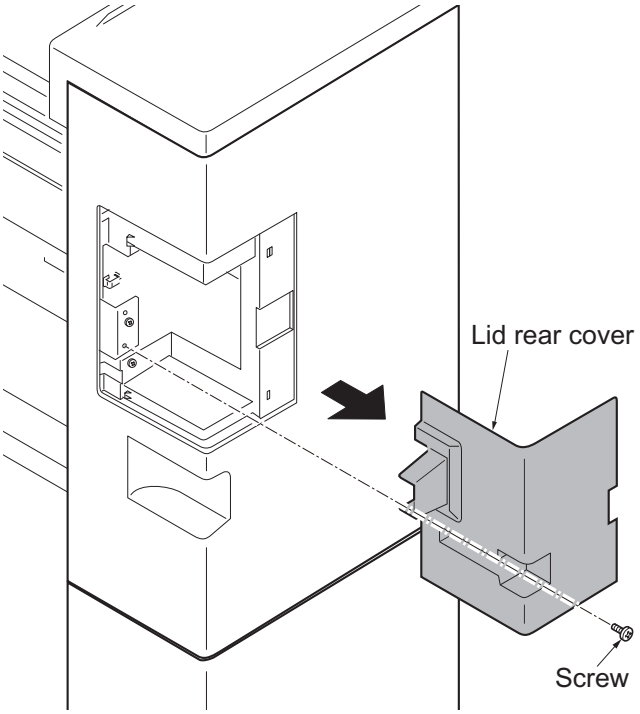

Figure 1-5-1

2. Remove three screws and then remove the DF upper rear cover.

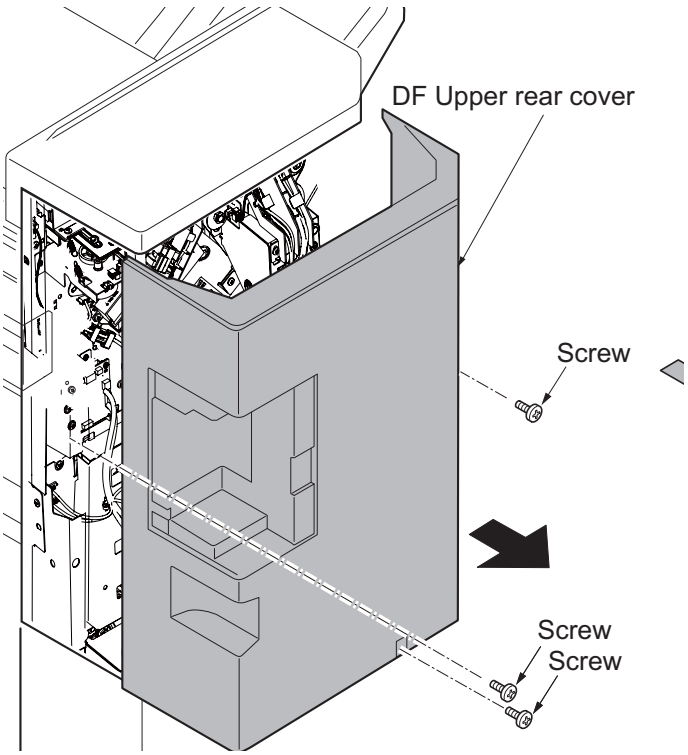

Figure 1-5-2

3. Remove all connectors from the DF main PWB.
4. Remove six screws.
5. Remove the DF main PWB.
6. Check or replace the DF main PWB and refit all the removed parts.

CAUTION:when replacing the DF main PWB, remove the EEPROM (U2) from the DF main PWB that has been removed and then reattach it to the new DF main PWB.

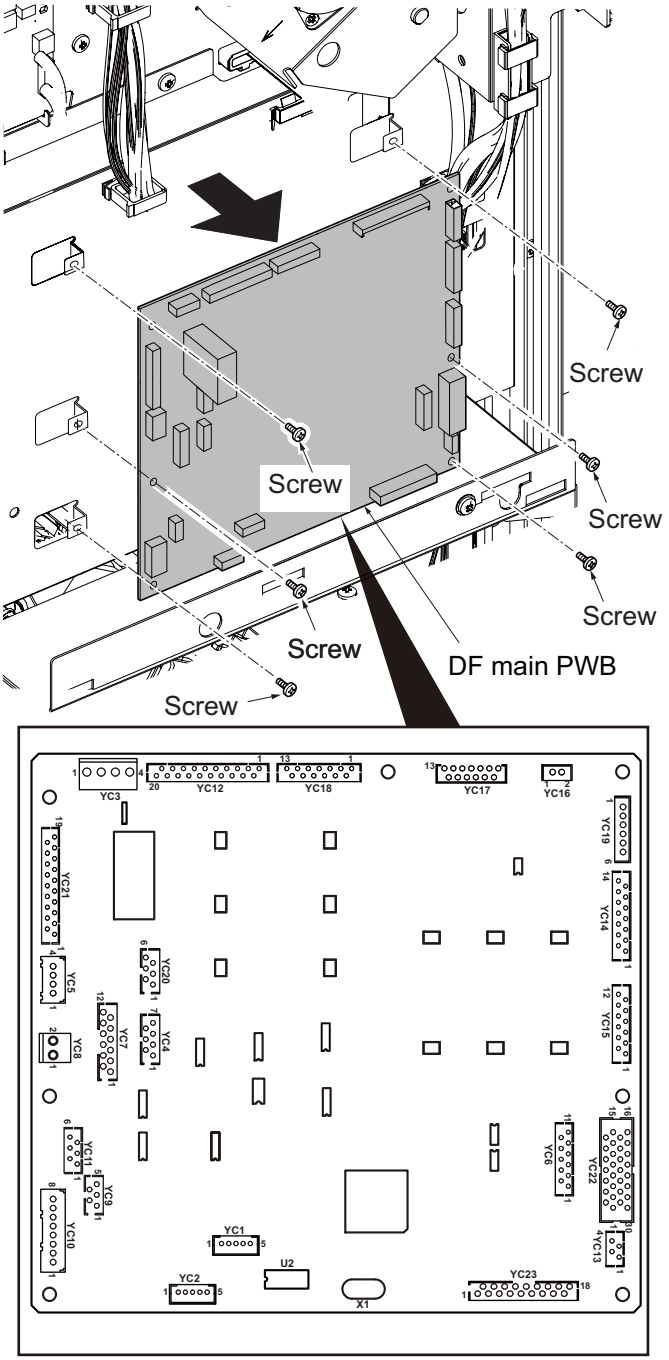

Figure 1-5-3

(2) Detaching and refitting the Staple unit

Procedure

1. Open the DF upper front cover.

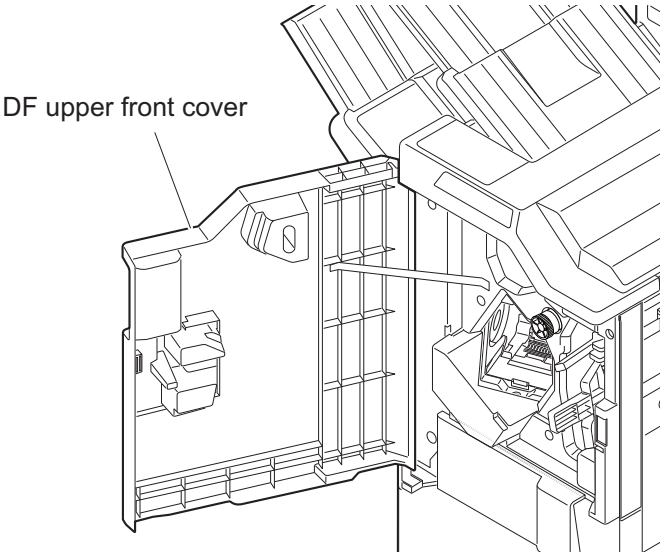

Figure 1-5-4

2. Insert a flat screwdriver under the lever of the staple cover. Lift the lever upwards to open.
3. Remove two connectors.

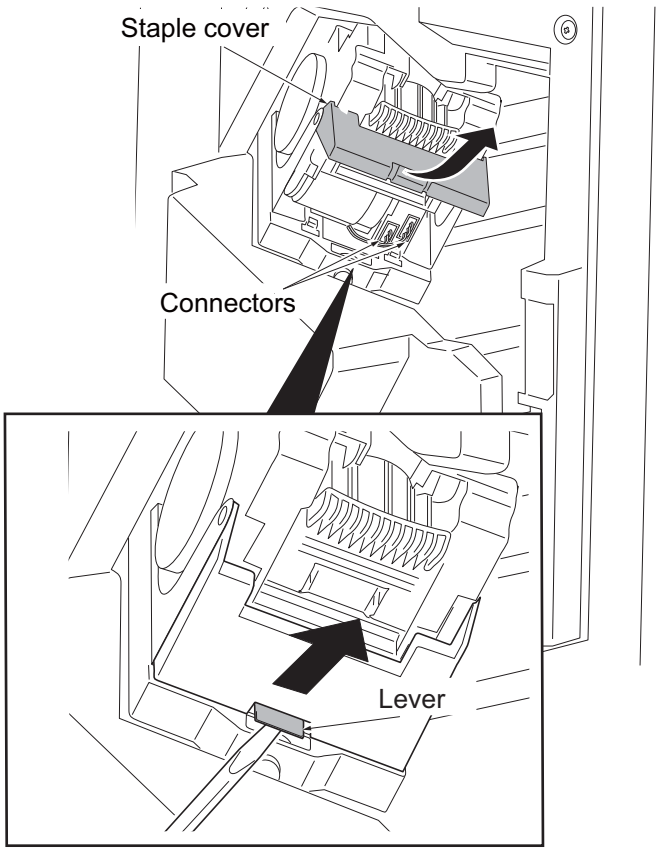

Figure 1-5-5

4. Raise the front of the staple unit and pull the staple unit frontwards.
5. Check or replace the Staple unit and refit all the removed parts.

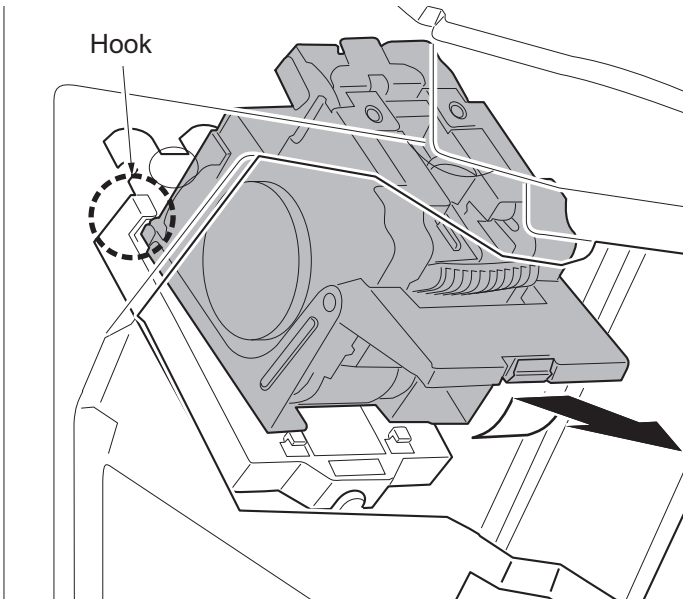

Figure 1-5-6

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1-6-1 Remarks on DF main PWB replacement

When replacing the DF main PWB, remove the EEPROM (U2) from the DF main PWB that has been removed and then reattach it to the new DF main PWB.

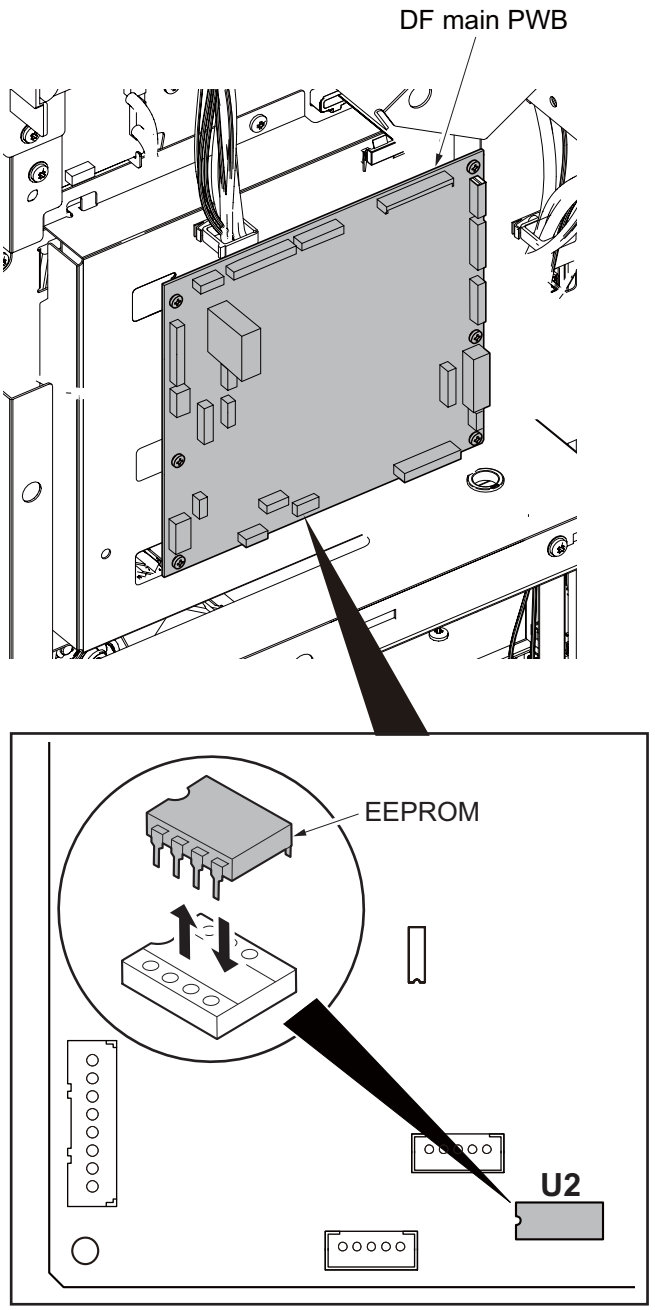


Figure 1-6-1

1-6-2 Remarks on CF main PWB replacement

When replacing the CF main PWB, remove the EEPROM (U2) from the CF main PWB that has been removed and then reattach it to the new CF main PWB.

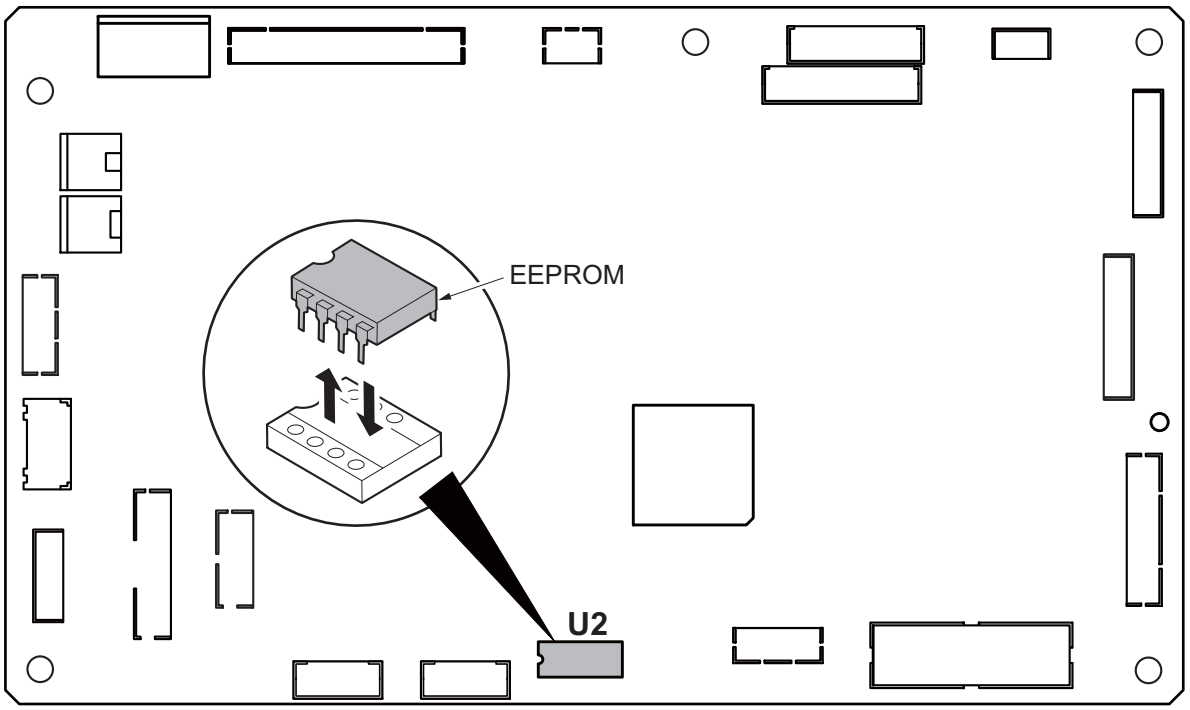


Figure 1-6-2

2-1-1 Bridge unit section

The bridge unit section consists of the parts shown in figure below and discharges paper conveyed from the machine to the document finisher or DF right sub tray.

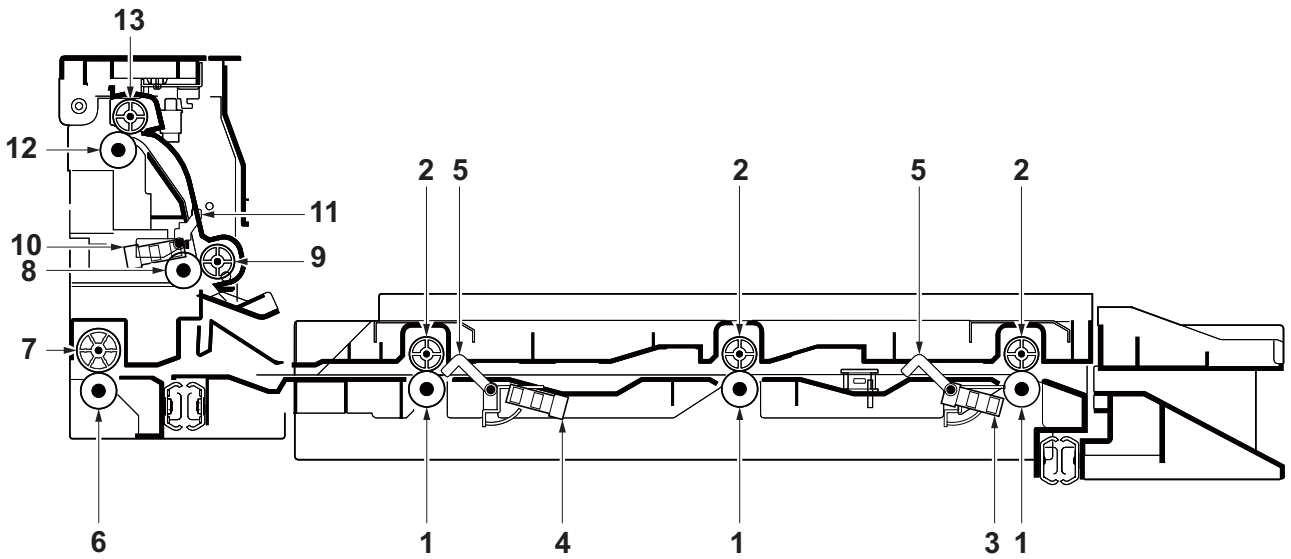


Figure 2-1-1 Bridge unit section

1. Paper conveying roller
2. Paper conveying pulley
3. Bridge conveying sensor1 (BRCS1)
4. Bridge conveying sensor2 (BRCS2)
5. Actuator(Bridge conveying sensor)
6. Eject roller 1
7. Eject pulley 1
8. Feedshift roller
9. Feedshift pulley
10. Bridge eject sensor (BRES)
11. Actuator(Bridge eject sensor)
12. Eject roller 2
13. Eject pulley 2

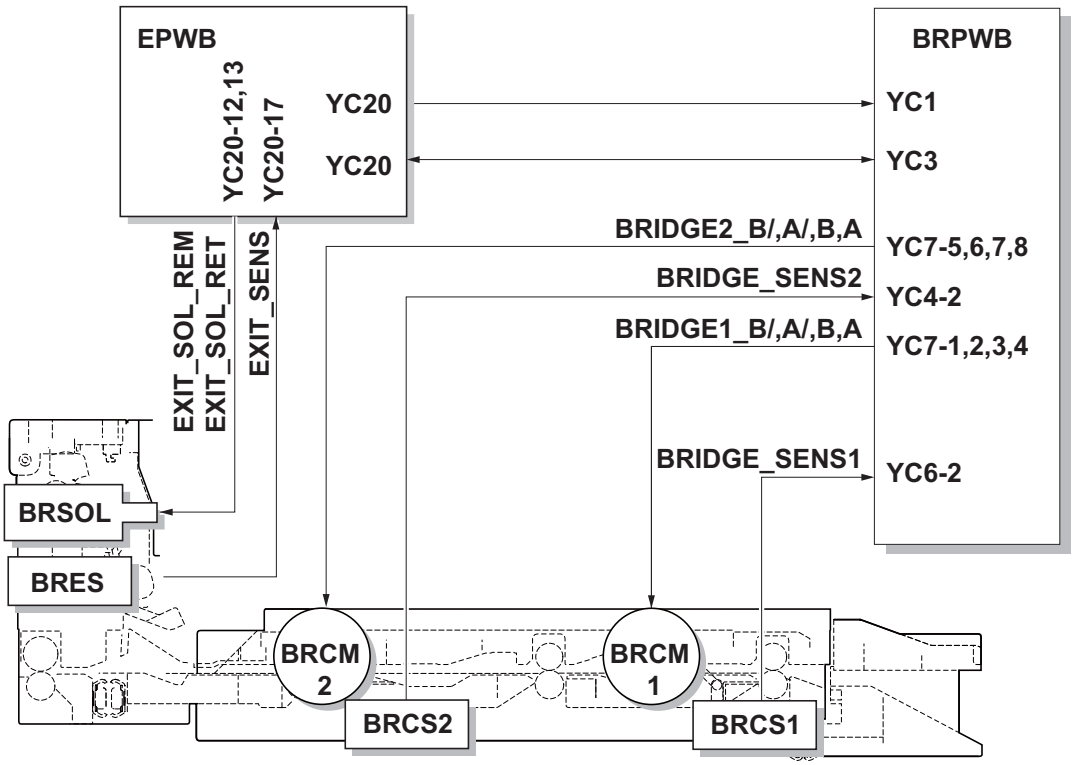


Figure 2-1-2 Bridge unit section block diagram

2-1-2 Paper insertion,feedshift and DF left sub tray eject sections

The paper insertion section inserts paper from the machine into the finisher and then conveys it to the feed-shift section.In addition, the paper insertion section switches the paper path to operate feedshift guide 3 and ejects paper to the DF left sub tray or prosessing section.

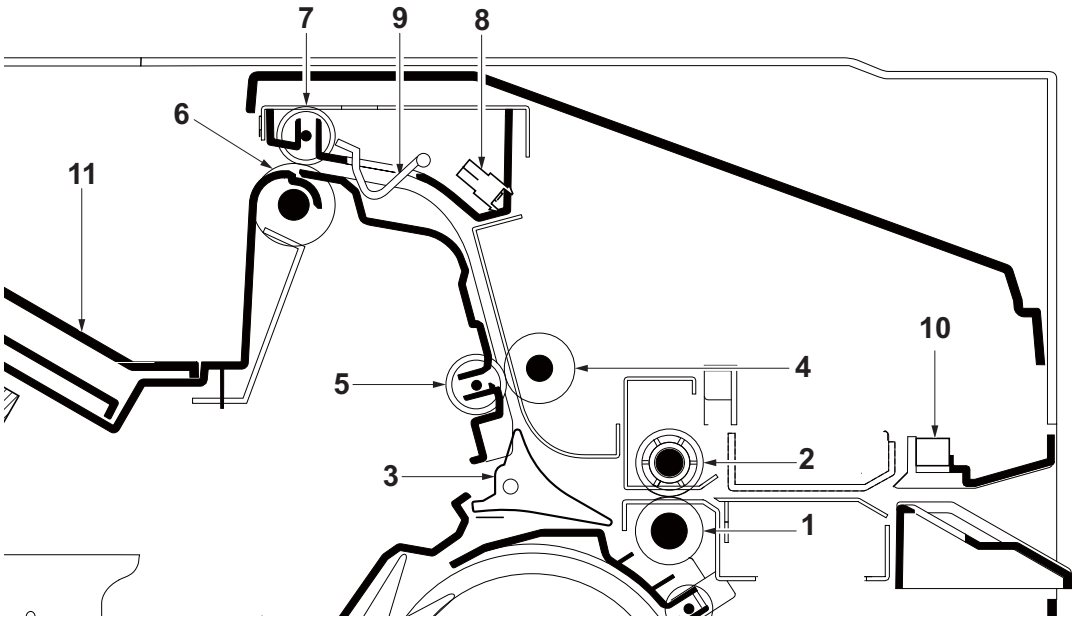


Figure 2-1-3 Paper insertion,feedshift and DF left sub tray eject sections

1. Paper entry roller
2. Paper entry pulley
3. Feedshift guide 3
4. Left sub tray feed roller
5. Feed pulley
6. Left sub tray eject roller
7. Eject pulley
8. Sub eject sensor
9. Actuator(sub eject sensor)
10. DF paper entry sensor(DFPES)
11. DF left sub tray

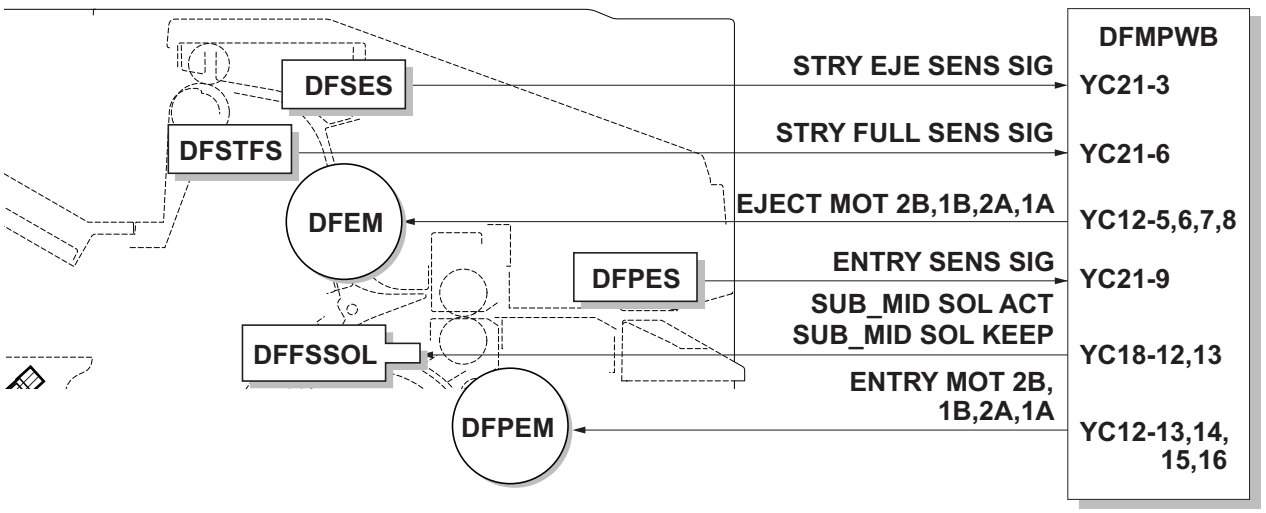


Figure 2-1-4 Paper insertion,feedshift and left sub tray eject sections block diagram

(1) Feedshift operation to DF left sub tray or prosessing section

Feedshift guide 3 operates by feedshift solenoid 3, switches the paper path carried to the feedshift section, and conveys paper to the left sub tray or prosessing section. In addition, DF sub eject sensor detects paper jam when ejecting to the DF left sub tray.

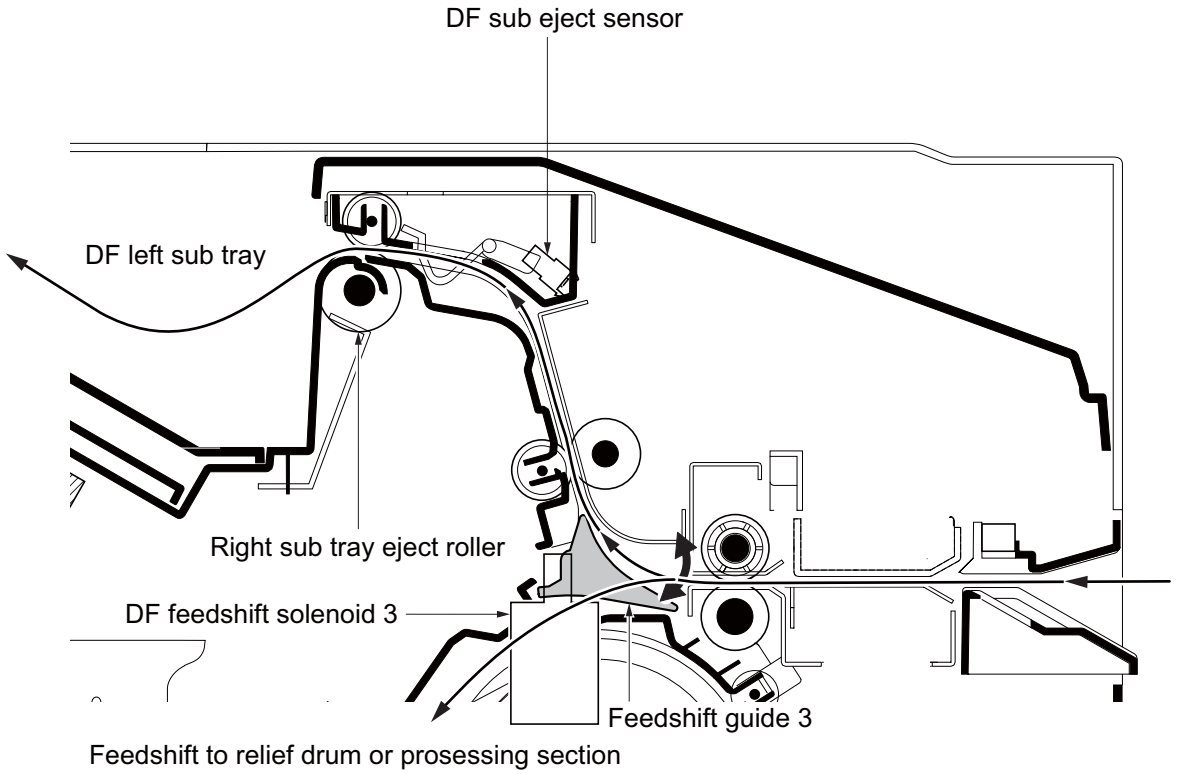

DF sub eject sensor
DF left sub tray
Right sub tray eject roller
DF feedshift solenoid 3
Feedshift guide 3
Feedshift to relief drum or prosessing section

Figure 2-1-5

2-1-3 Prosessing section

The processing section consists of the parts shown in figure below and discharges paper conveyed from the bridge section to the eject tray. Also this section performs processing in the bundle discharge mode and the staple mode.
In addition, the relief drum section switches the paper path with the operation of Feedshift guide 1 and Feedshift guide 2 and conveys paper to optional center-folding unit when centerfolding the paper

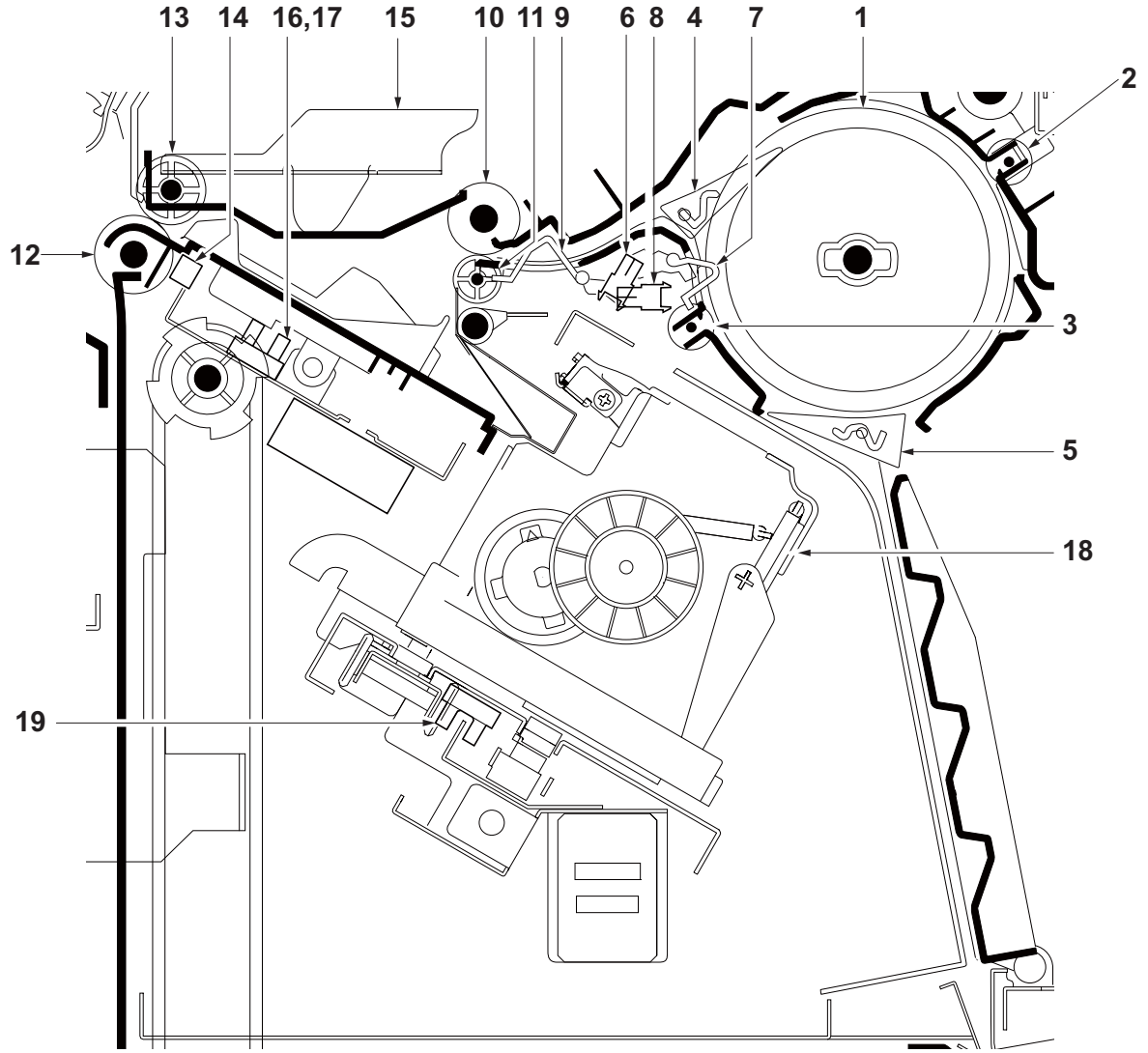


Figure 2-1-6 Processing section

1. Relief drum
2. Conveying pulley
3. Conveying pulley
4. Feedshift guide 1
5. Feedshift guide 2
6. DF drum sensor(DFDRS)
7. Actuator(df drum sensor)
8. DF middle sensor (DFMS)
9. Actuator(df middle sensor)
10. Middle roller
11. Middle pulley
12. Main tray eject roller
13. Eject pulley
14. DF eject paper sensor (DFMTS)
15. Bundle discharge unit
16. DF adjustment sensor 1 (DFSRS1)
17. DF adjustment sensor 2 (DFSRS2)
18. Staple unit
19. DF slide sensor (DFSLS)

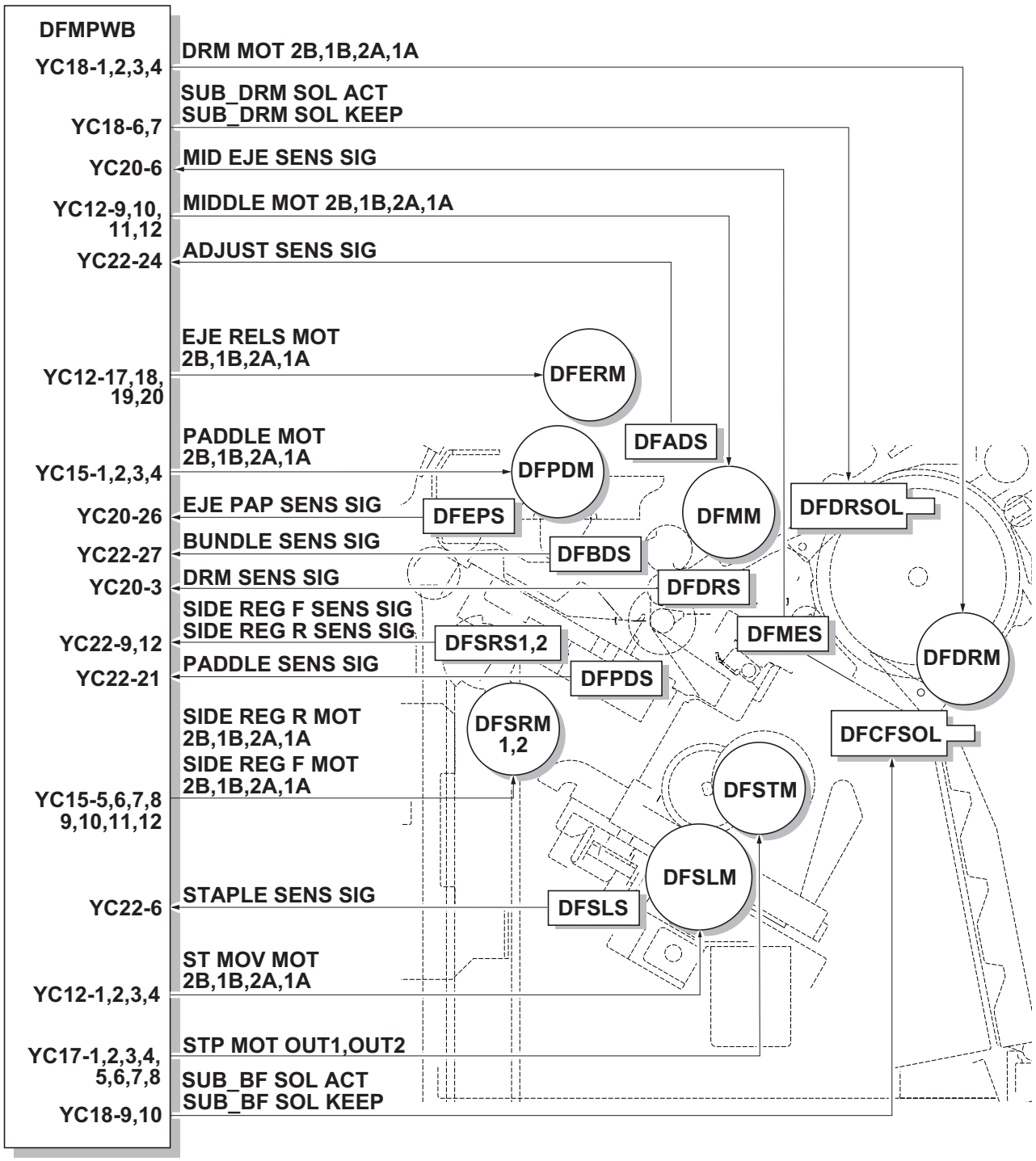


Figure 2-1-7 Processing section block diagram

(1) Relief drum operation

When more than one copy of A4 size paper are handled using the inner tray, feeding of the first and second pages of the next job is sustained until the third page is fed in order to retain the time during which paper feeding is progressed.

1. Feedshift guide 1 operates by feedshift solenoid 1, switches the paper path carried to the feedshift section and first page of next group is carried to the relief section.
2. In the same way, second page of next group is carried to the relief drum.

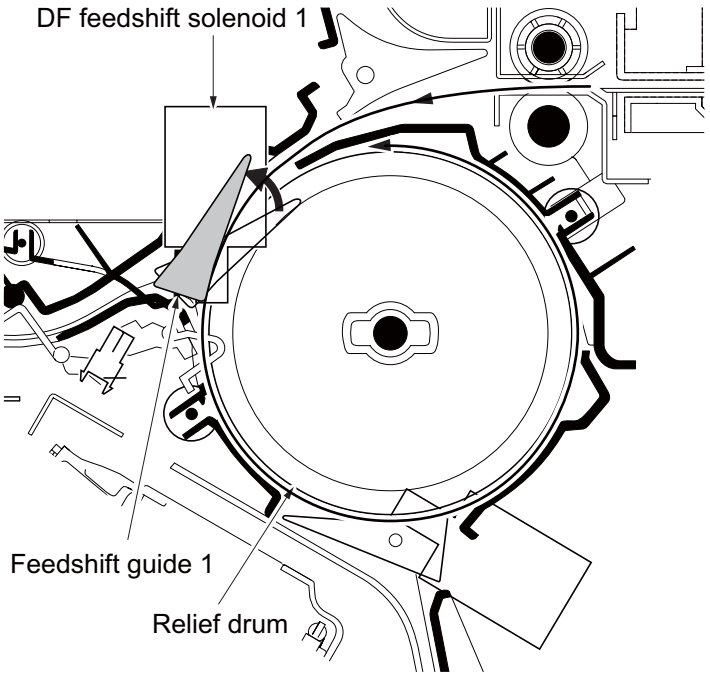


Figure 2-1-8

3. When third page of next group is carried to the relief drum section, third page is conveyed to prosessing section with first and second pages.
   At this time, paper conveying path is switched with the operation of the feedshift guide 1.

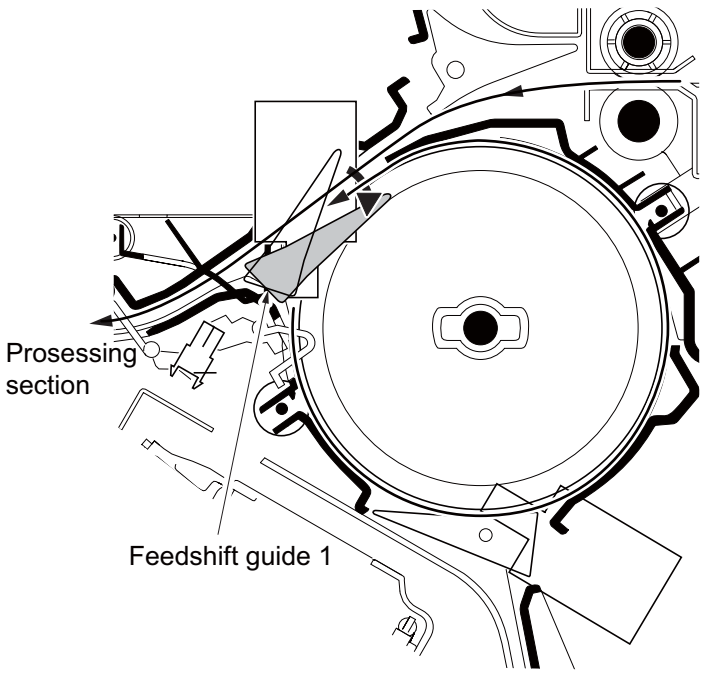


Figure 2-1-9

4. Paper is fed into the center-folding unit by steering the paper within the relief drum as the DF feedshift solenoid 2 are energized respectively.

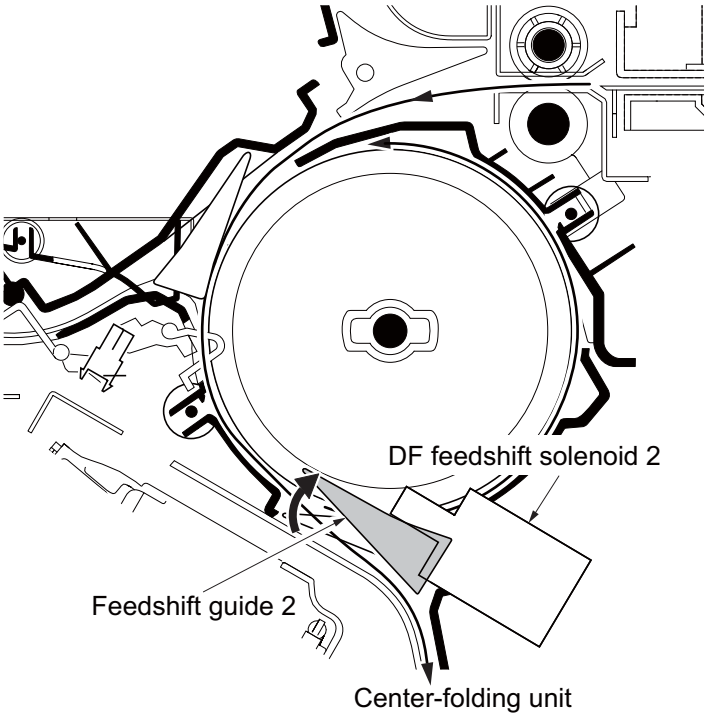
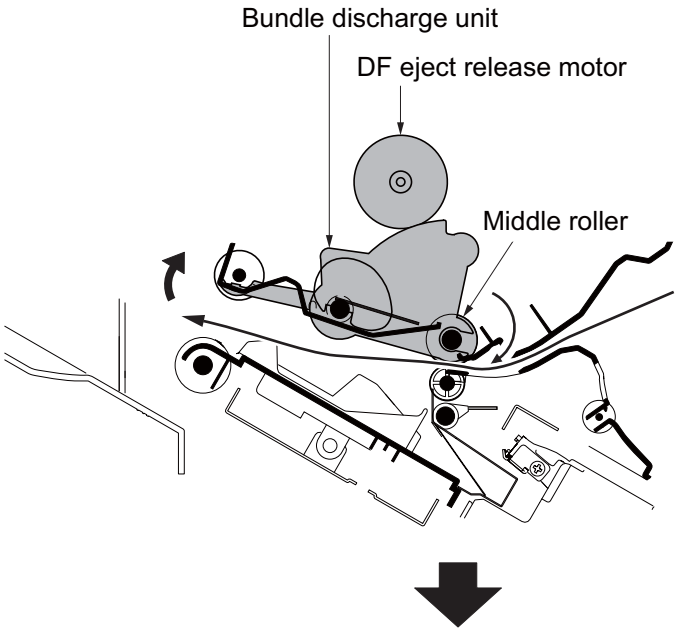


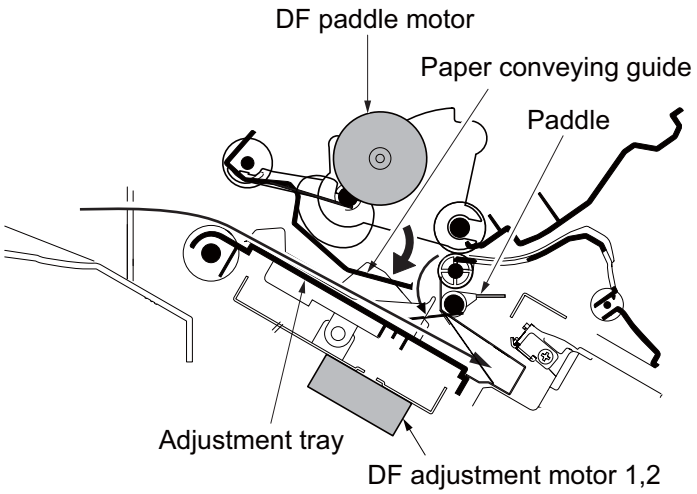
Figure 2-1-10

(2) Bundle discharge operation

1. Paper is fed to the processing section by rotation of the paper entry roller and middle roller. When the paper is conveyed into the processing section, the DF eject release motor is driven to raise the bundle discharge unit.



2. When the trailing edge of paper passes through the middle roller, the paper conveying guide lowers and the paper is fed to the adjustment tray by paddle. DF adjustment motors 1 and 2 activate the adjustment guide to adjust the paper.



3. When adjustment of the last sheet of the bundle is completed, the Main tray eject roller rotate to discharge the bundle of paper to the eject tray.

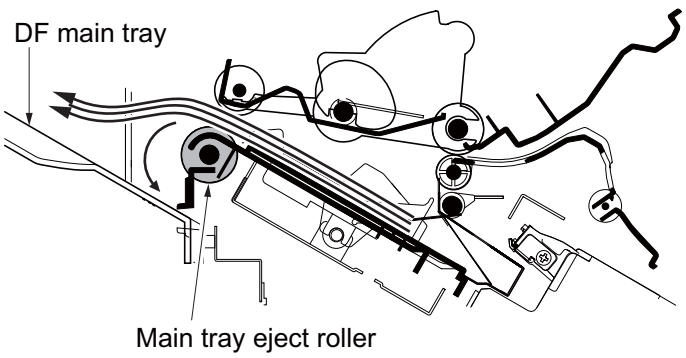


Figure 2-1-11

2-1-4 Eject tray section

In the sort mode or staple mode, paper is ejected to the main tray. In addition, by selecting the destination stack to the main tray, the paper is delivered to the main tray.

.

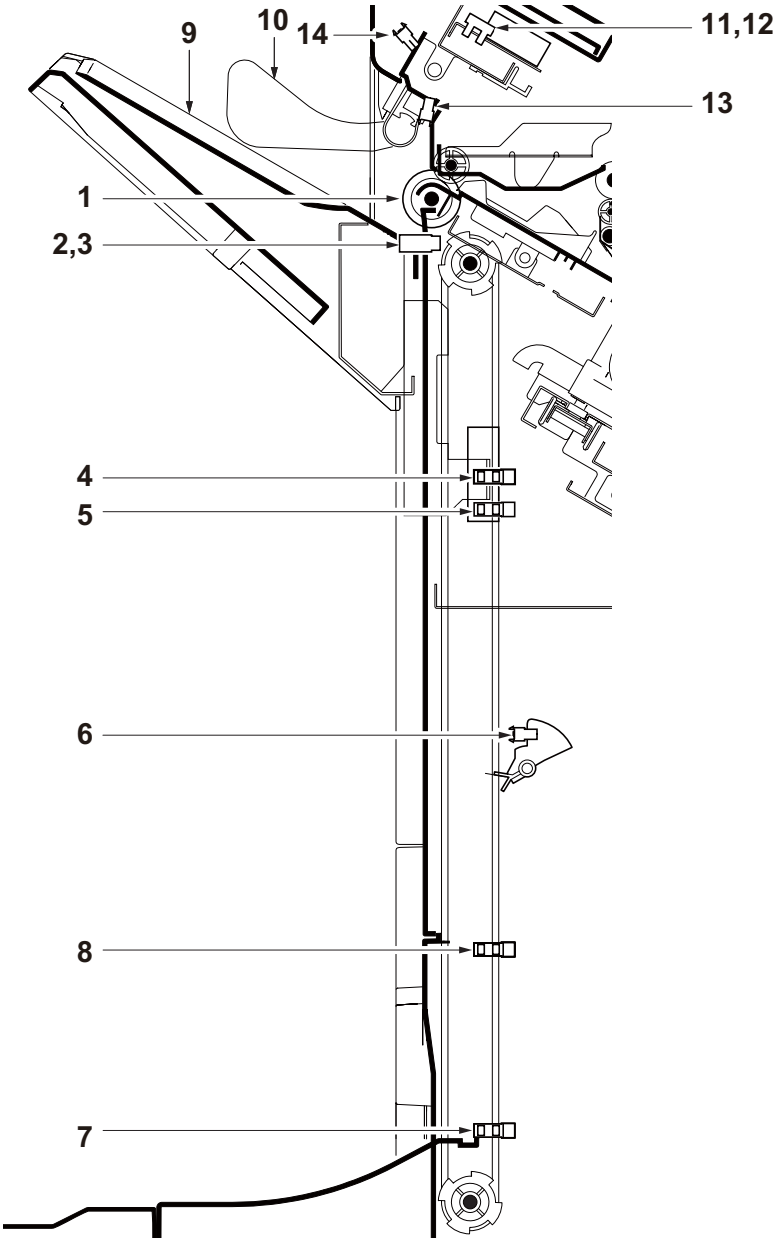


Figure 2-1-12 Eject tray section

1. DF eject clutch(DFCL)
2. DF tray surface sensor 1 (DFTUSS1)
3. DF tray surface sensor 2 (DFTUSS2)
4. DF tray sensor1(DFTS1)
5. DF tray sensor2(DFTS2)
6. DF tray sensor3(DFTS3)
7. DF tray sensor4(DFTS4)
8. DF tray sensor5(DFTS5)
9. DF Main tray(Tray A)
10. Side shift guide
11. DF shift sensor1(DFSFS1)
12. DF shift sensor2(DFSFS2)
13. DF shift set sensor(DFSFSS)
14. DF shift release sensor(DFSFRS)

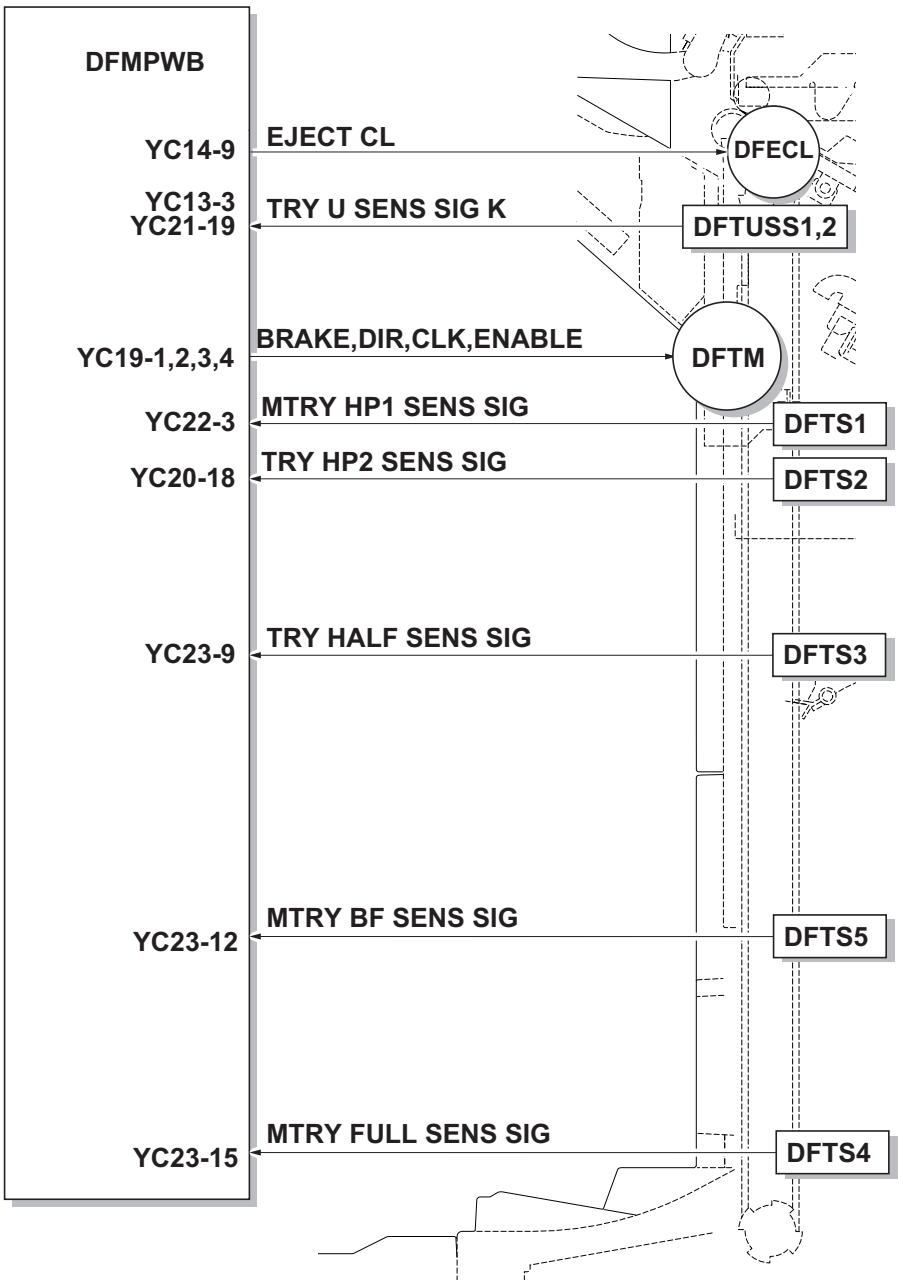


Figure 2-1-13 Eject tray section block diagram

(1) Main tray elevation operation

The main tray lowers when paper is stacked on it. Once stacking has completed and paper has been removed, the main tray rises and stops at the home position. The main tray lowers and rises by the forward and backward rotation of the main tray motor, respectively. The position of the main tray for elevation is detected by the DF tray upper surface sensor 1/2 as they sense the top surface of the paper loaded on the main tray. In addition, a paper empty state is detected by the main tray upper limit detection sensor as it senses the upper most (home) position of the main tray.

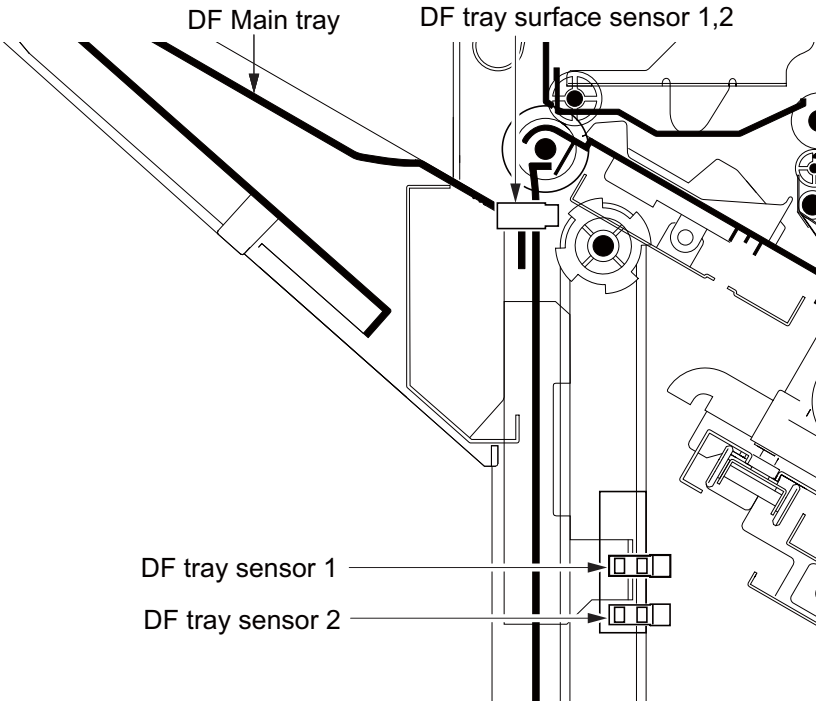


Figure 2-1-14

(2) Collation

Collation is achieved by laterally sliding the printed pages as the shift guide, which is recessed during collation is not engaged, is set in position to slide the pages by the DF shift release motor, and subsequently put in motion by the motors 1 and 2.

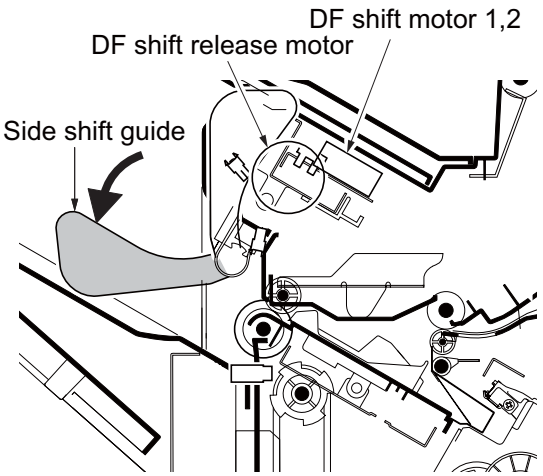


Figure 2-1-15

2-1-5 Center-folding unit section (option)

The center-folding unit delivers pages into the centerfold tray after center-fold or tri-fold the page by the centerfold blade.
It also delivers the pages in the centerfold tray after the paper is center-folded as well as stapled by the centerfold staple unit.

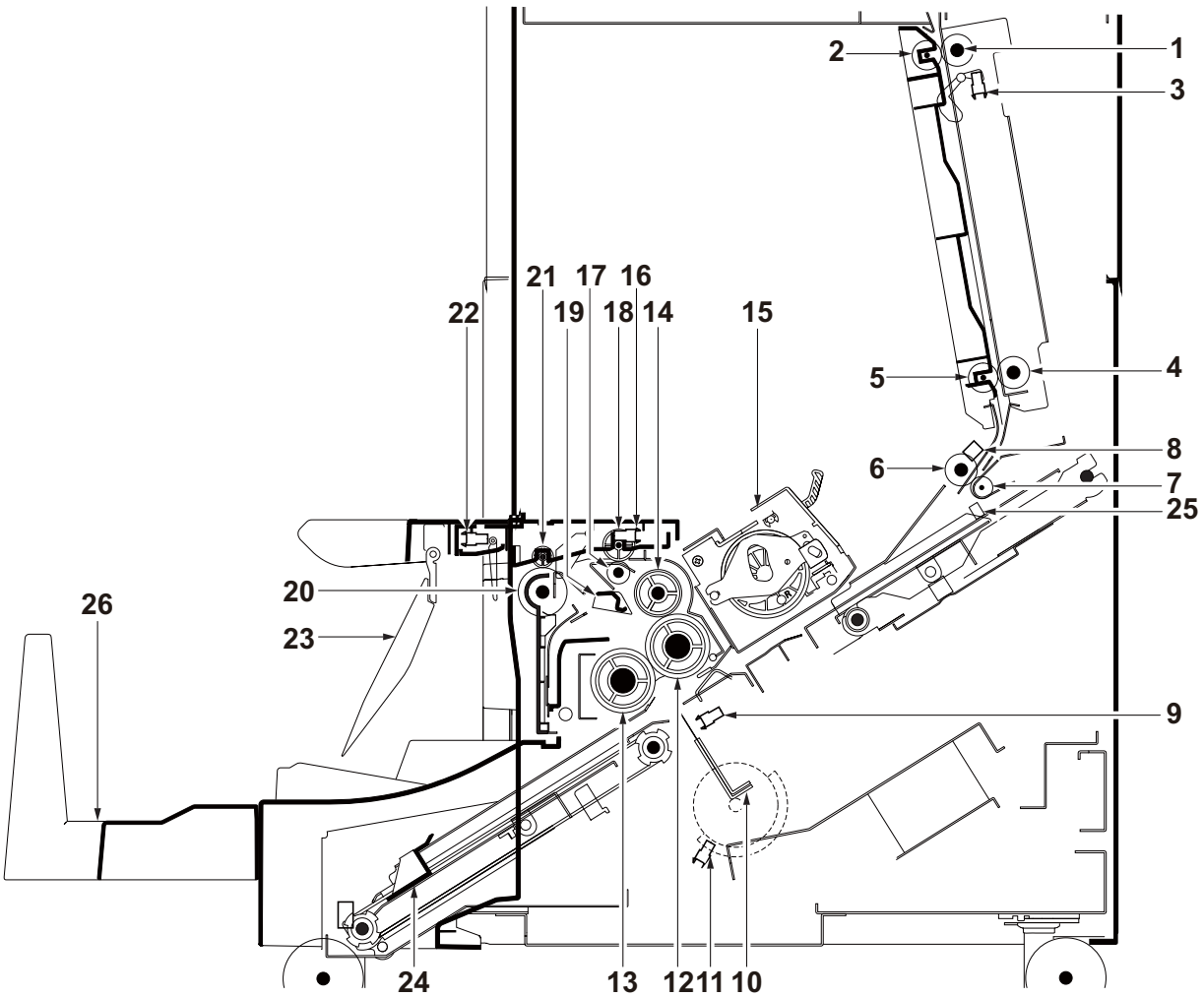


Figure 2-1-16 Center-folding unit

1. CF paper conveying roller 1
2. CF paper conveying pulley
3. CF paper conveying sensor(CFPCS)
4. CF paper conveying roller 2
5. CF paper conveying pulley
6. CF paper entry roller
7. CF paper entry pulley
8. CF paper entry sensor (CFPES)
9. CF paper detection sensor (CFPS)
10. CF blade
11. CF blade sensor (CFBS)
12. CF right roller
13. CF left roller
14. CF upper roller
15. CF staple unit
16. CF eject sensor (CFES)
17. CF paper conveying roller 3
18. CF paper conveying pulley
19. CF feedshift guide
20. CF eject roller
21. CF eject pulley
22. CF tray paper full sensor (CFTFS)
23. Ejected paper holding arm
24. CF lower sliding plate
25. CF upper sliding plate
26. CF tray

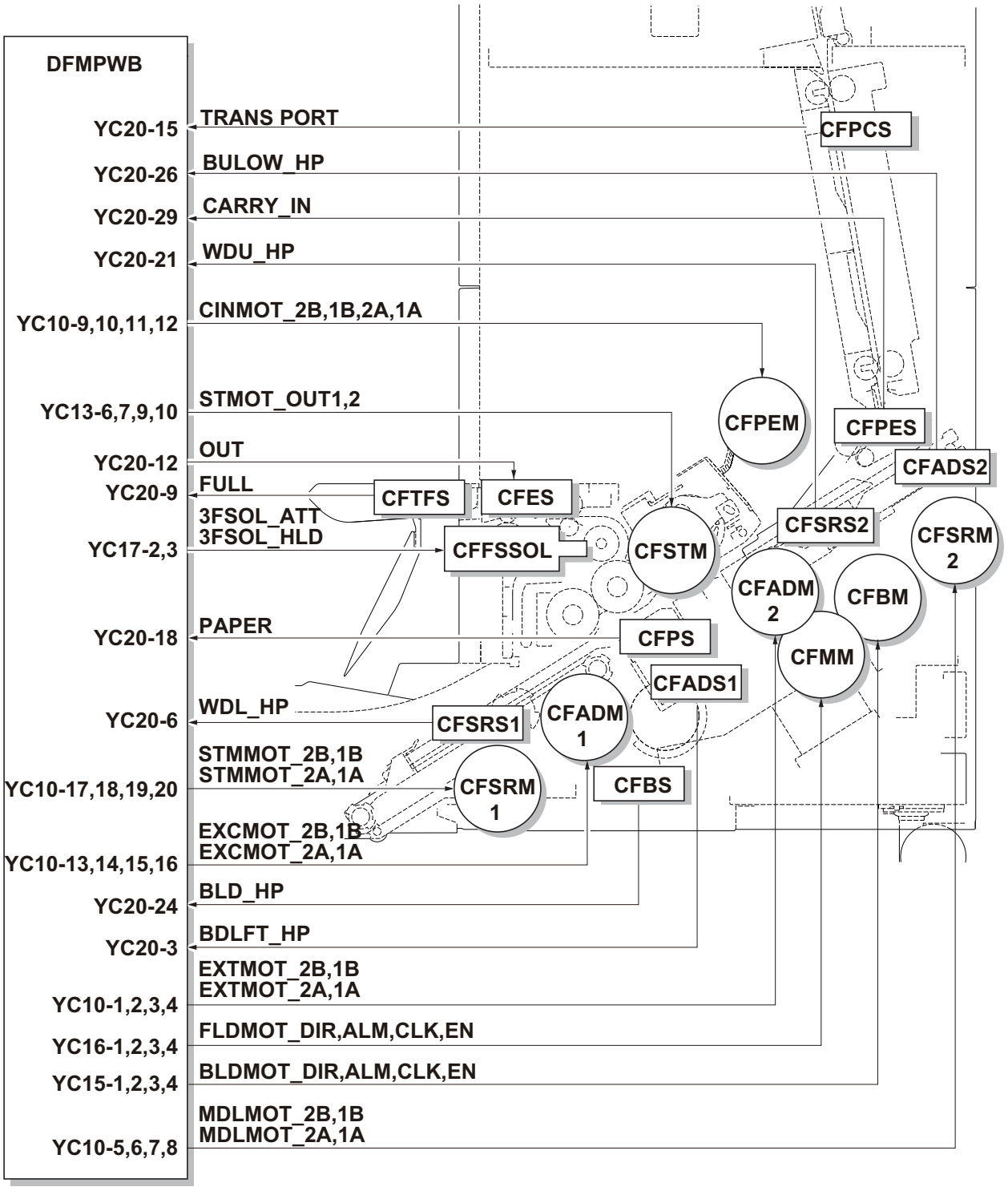


Figure 2-1-17 Center-folding unit block diagram

(1) Paper centerfold operation(center-folding,tri-folding)

Center-folding

1. The paper stuck at the center-folding unit is proceeded to the position at which it is centerfolded as driven by CF adjustment motor 1 and 2.
2. Paper is aligned width wise as CF side registration motors 1 and 2.

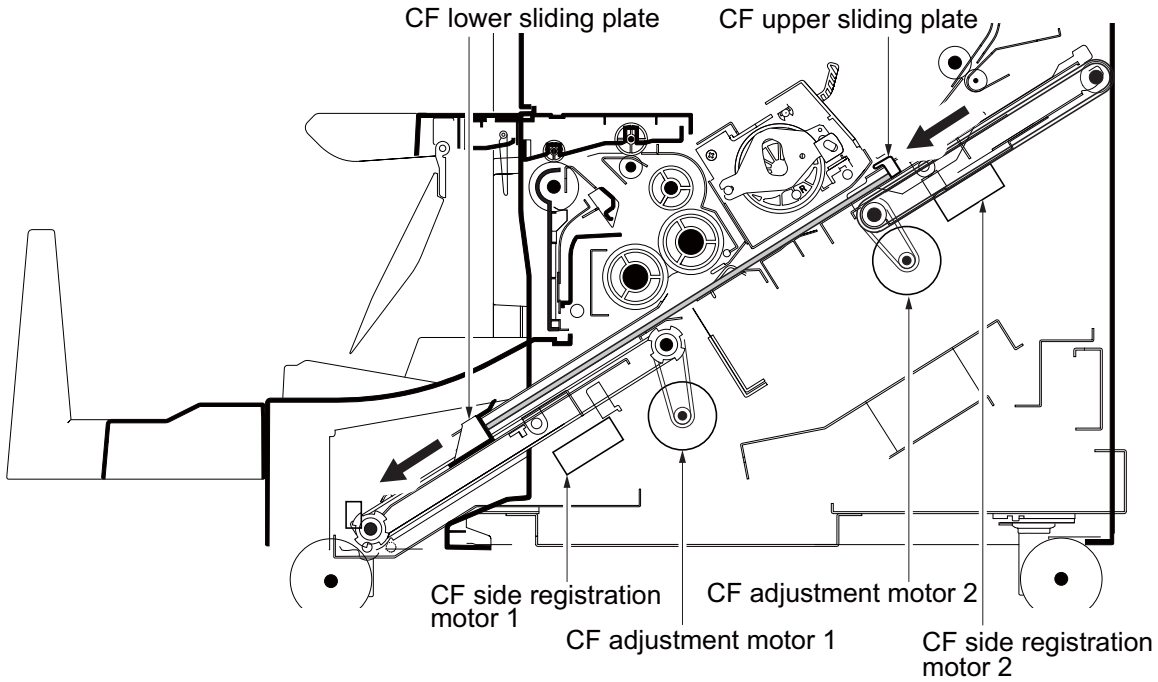

CF lower sliding plate
CF upper sliding plate
CF side registration motor 1
CF adjustment motor 1
CF adjustment motor 2
CF side registration motor 2

Figure 2-1-18

3. With the drive of the CF blade motor, the CF blade pushes up the center of the paper and crowds CF left and right rollers.
4. Center-folded paper is ejected to the CF tray with the operation of CF right and left rollers and CF eject roller.

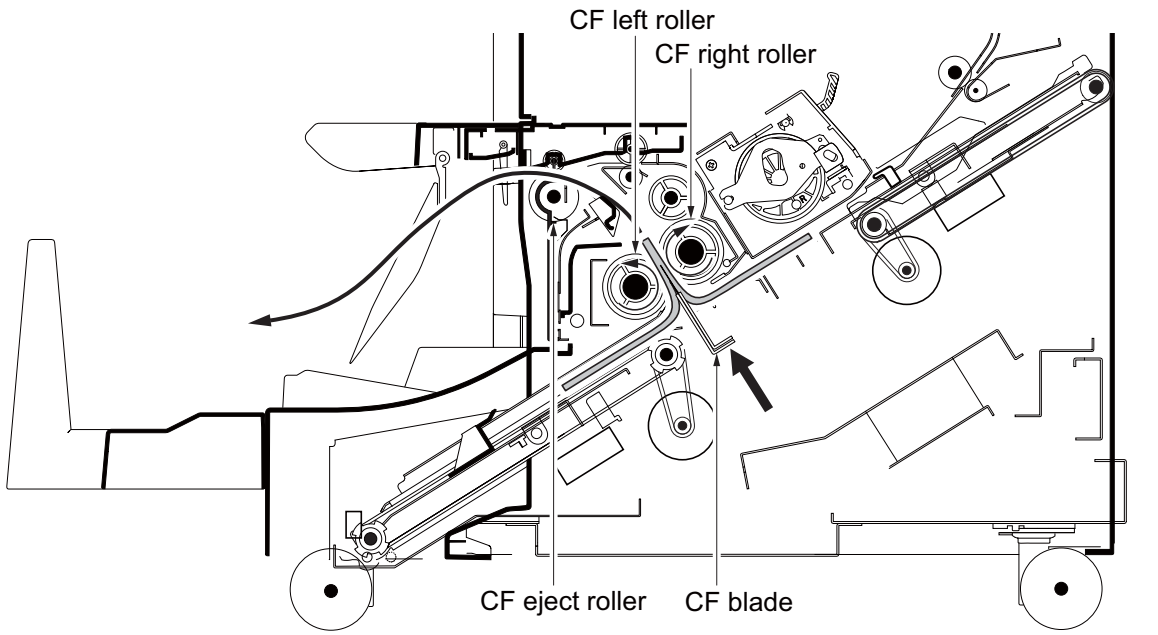


Figure 2-1-19

Tri-folding

1. The paper at the center-folding unit proceeds to the position at which it is center-folded as driven by CF adjustment motors 1 and 2.
2. The sheets are aligned with each other width wise as the CF blade pushes the center of the paper upwards and crowds the CF left and right rollers.
3. CF feedshift guide is operated by the CF feedshift solenoid which switches the paper path and conveys the paper to the relief section.

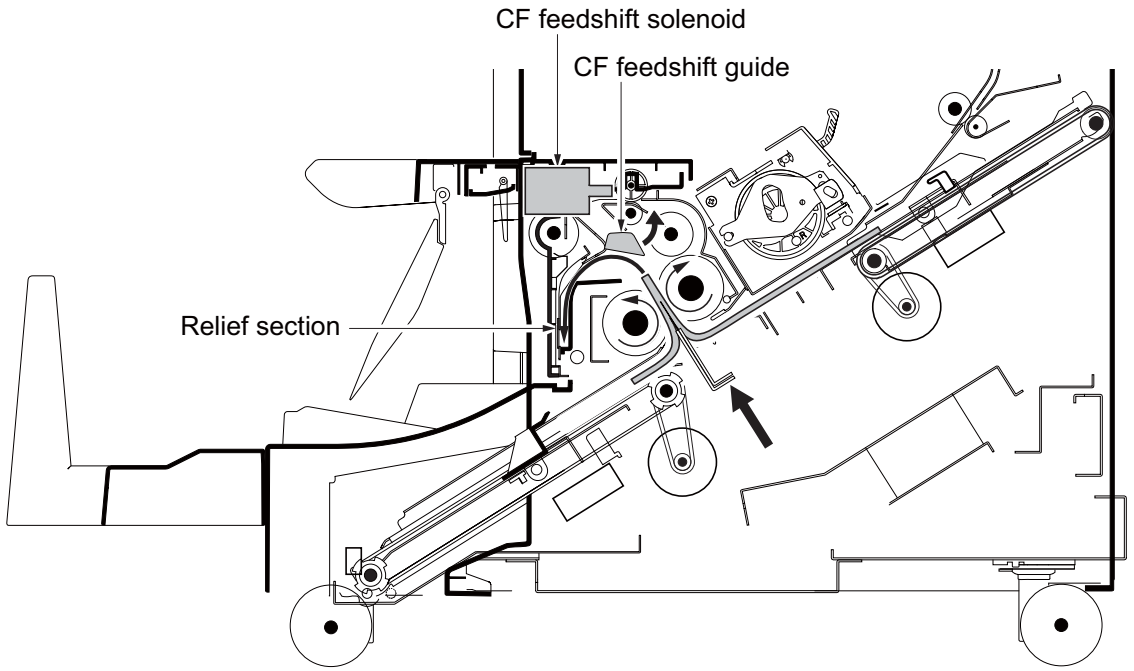


Figure 2-1-20

4. When the paper is stuck in the parking bay, its flexure is pinched between the right-side and top center-folding rollers so that the paper is folded inward.

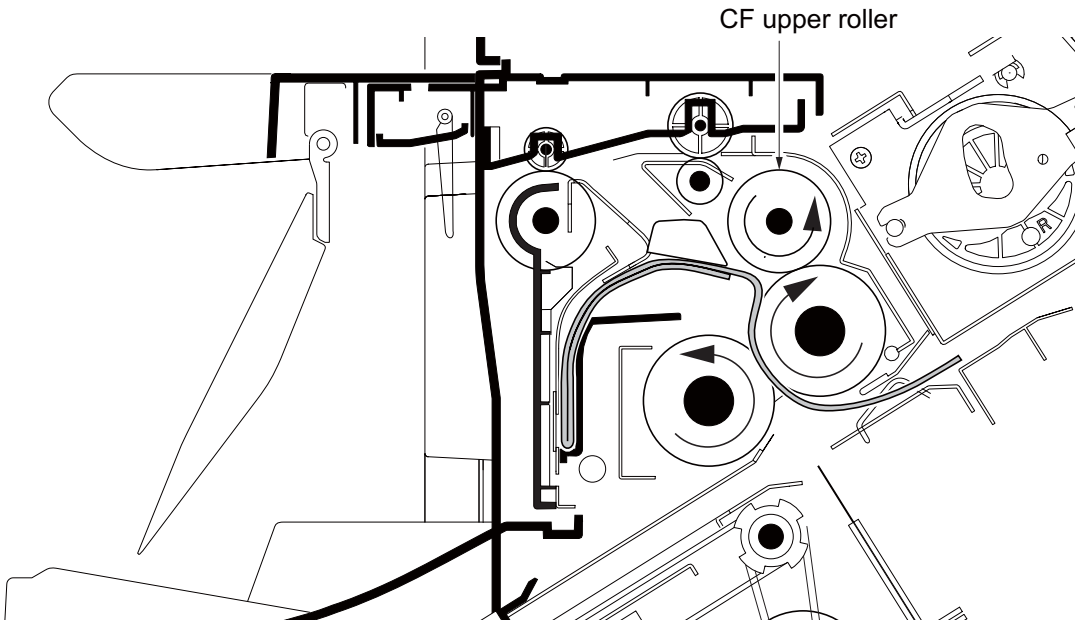


Figure 2-1-21

5. The tri-folded paper is ejected to the CF tray as the CF paper conveying roller 3 and CF eject roller operate.

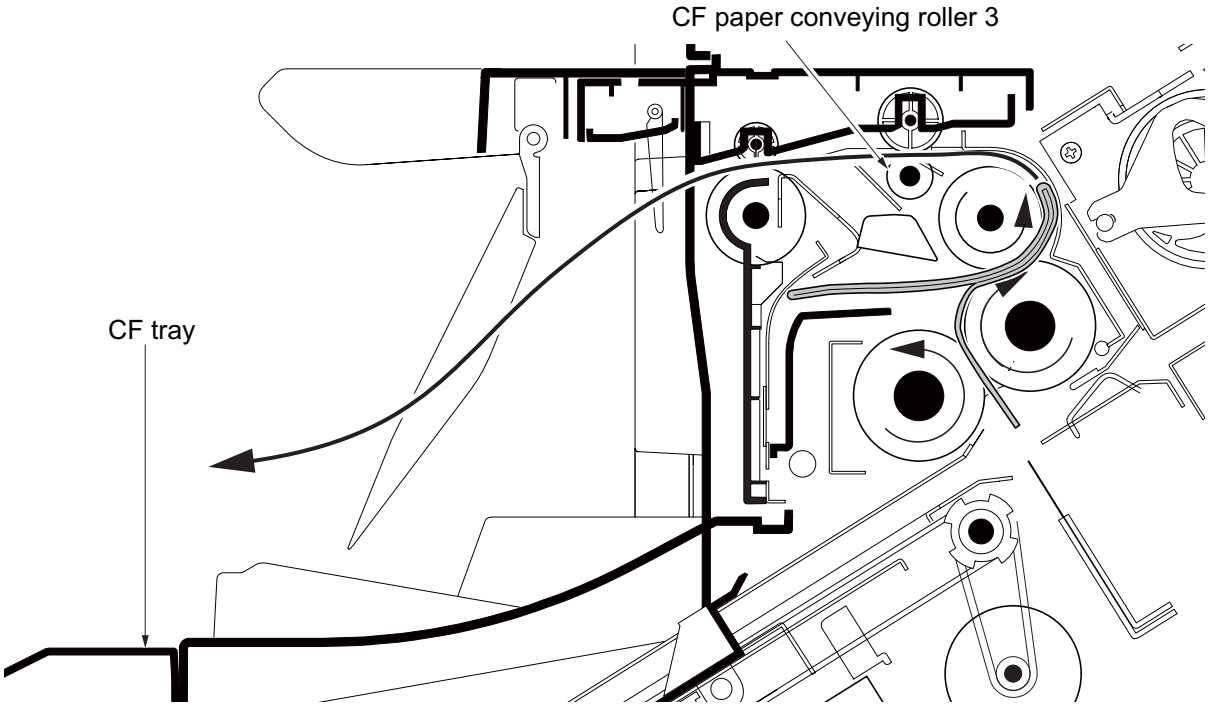


Figure 2-1-22

2-1-6 Mailbox (option)

The mailbox ejects and stacks to specified tray 1 to 7.

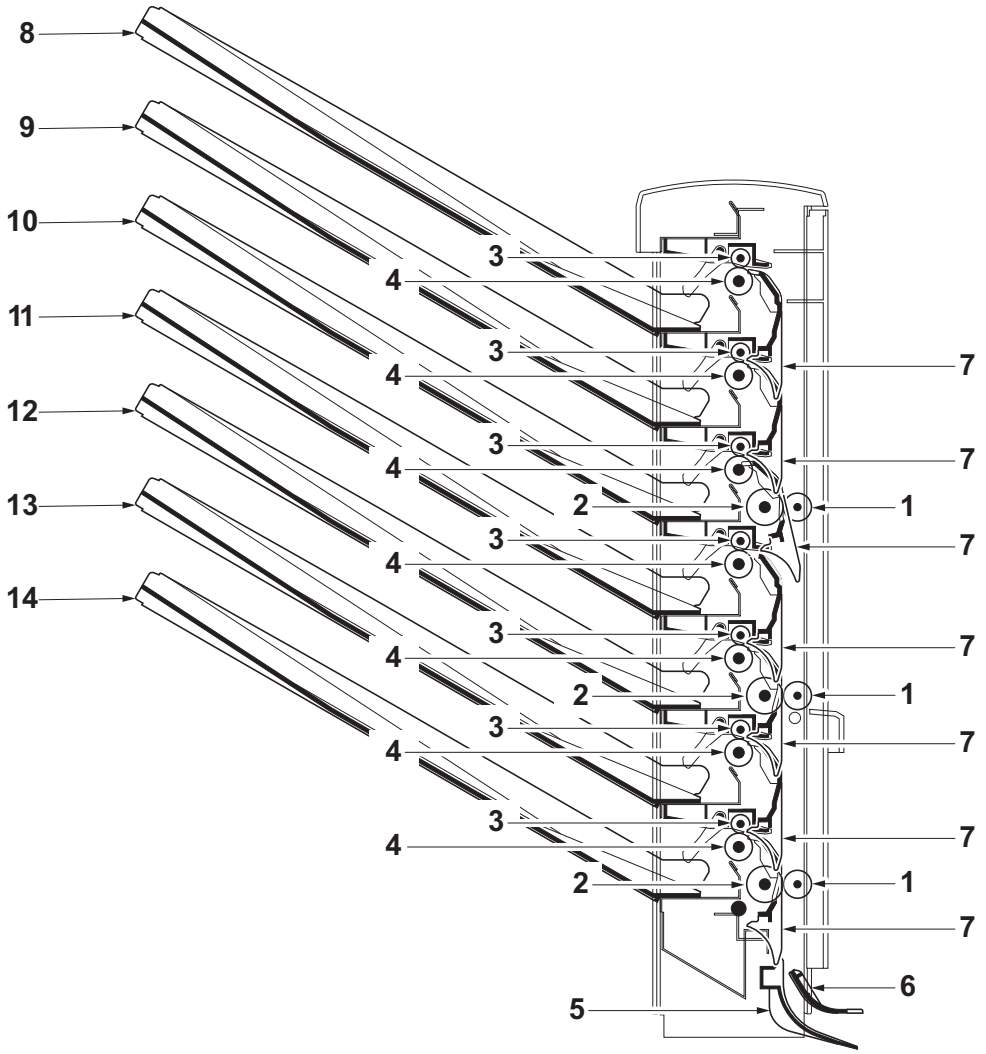


Figure 2-1-23 Mailbox

1. Paper conveying pulleys
2. Paper conveying rollers
3. Eject pulleys
4. Eject rollers
5. Lower paper entry guide
6. Upper paper entry guide
7. Feedshift claws
8. Tray 1
9. Tray 2
10. Tray 3
11. Tray 4
12. Tray 5
13. Tray 6
14. Tray 7

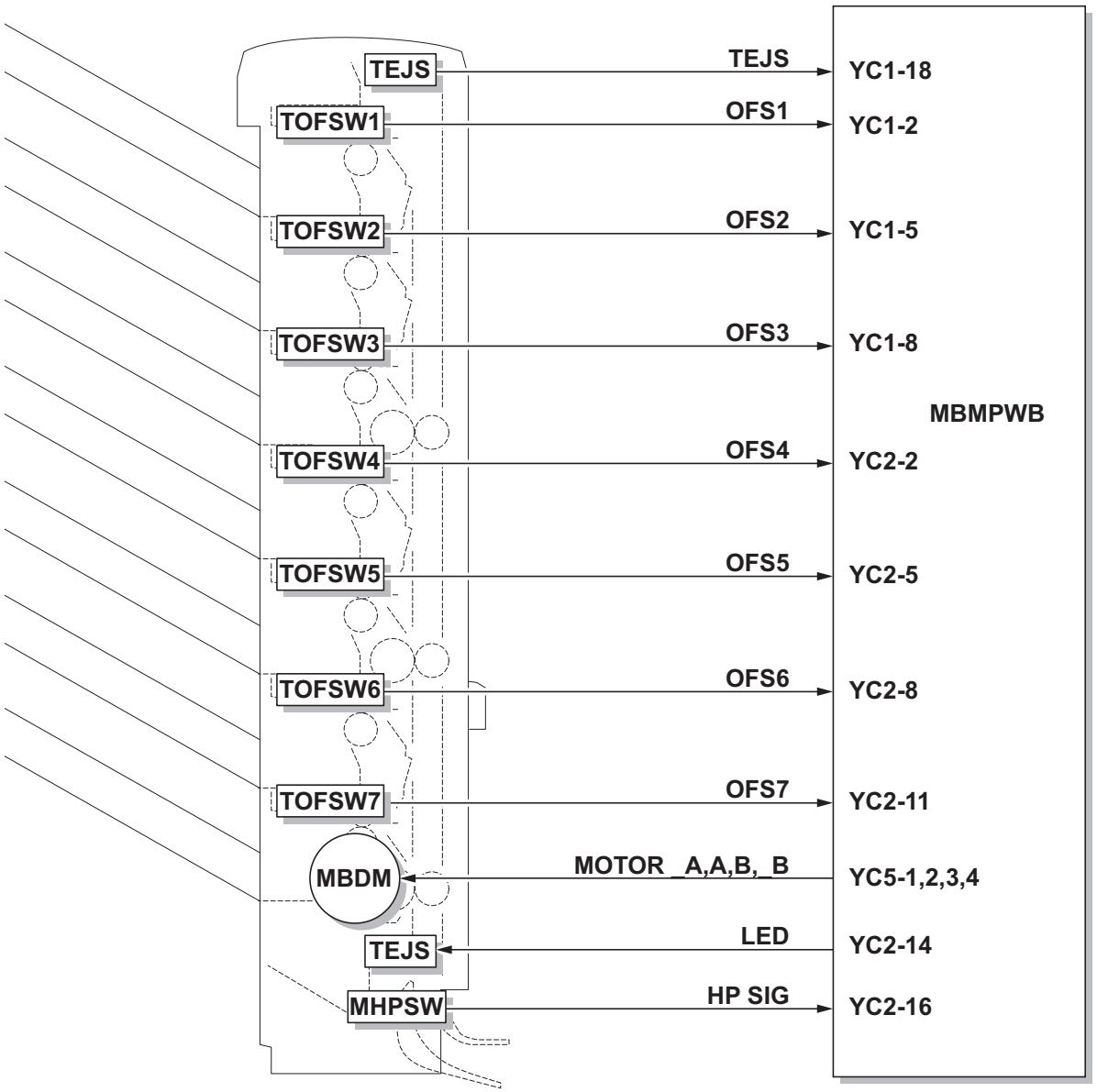


Figure 2-1-24 Mailbox block diagram

(1) Eject operation to mailbox tray

When the belt retainer that moves on the belt passes through the feedshift claw lever, the feedshift claw is activated to switch the paper path for ejection to each tray. In addition, the tray eject sensor detects paper jam.

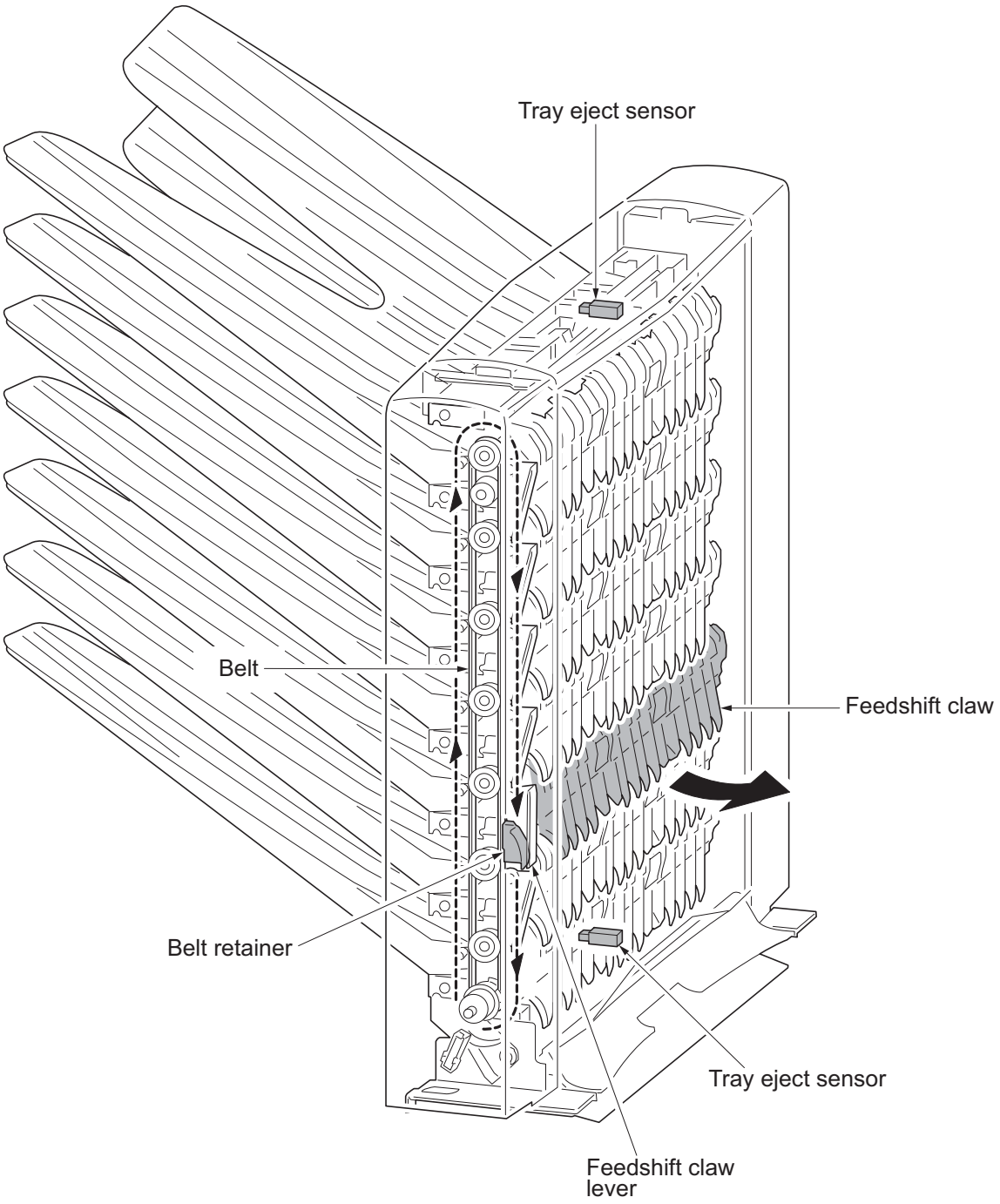


Figure 2-1-25

2-1-7 Punch unit(Option)

The punch unit is installed on the paper insertion section of the finisher. It stops paper conveyance and punches paper.

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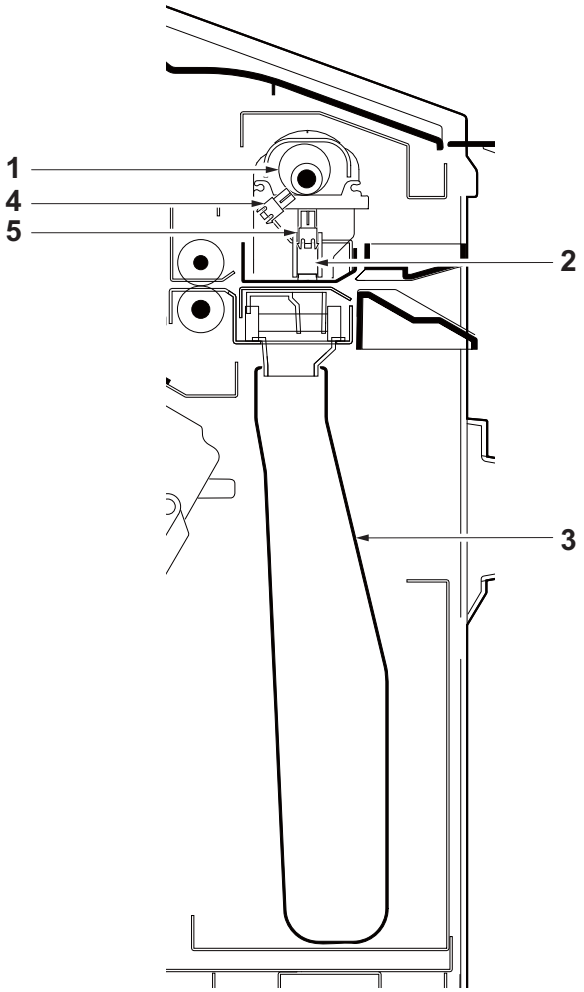

Figure 2-1-26 Punch unit

1. Punch cam
2. Punch cutter
3. Punch waste box
4. Punch home position sensor(PUHPS)
5. Punch plus sensor(PUPS)

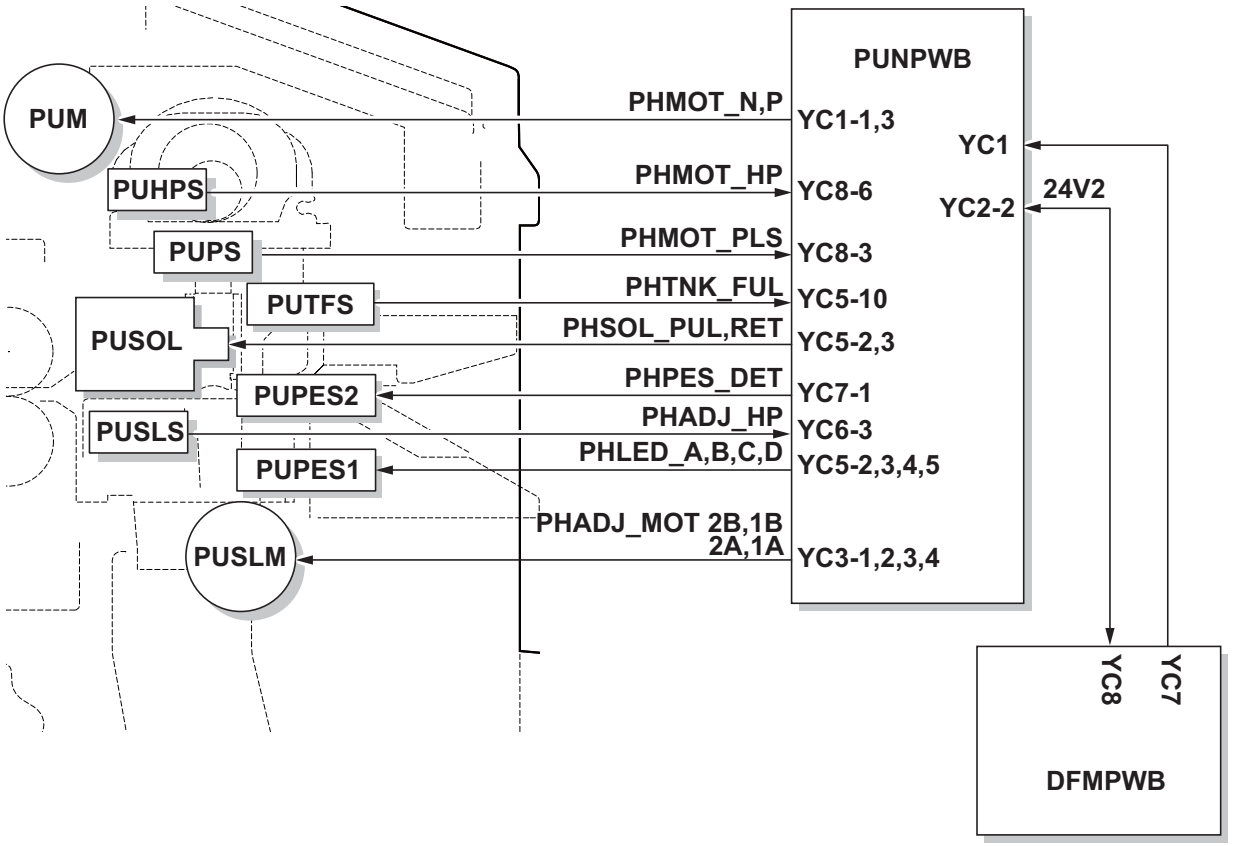

Figure 2-1-27 Punch unit block diagram

2-2-1 Electrical parts layout

(1) PWBs

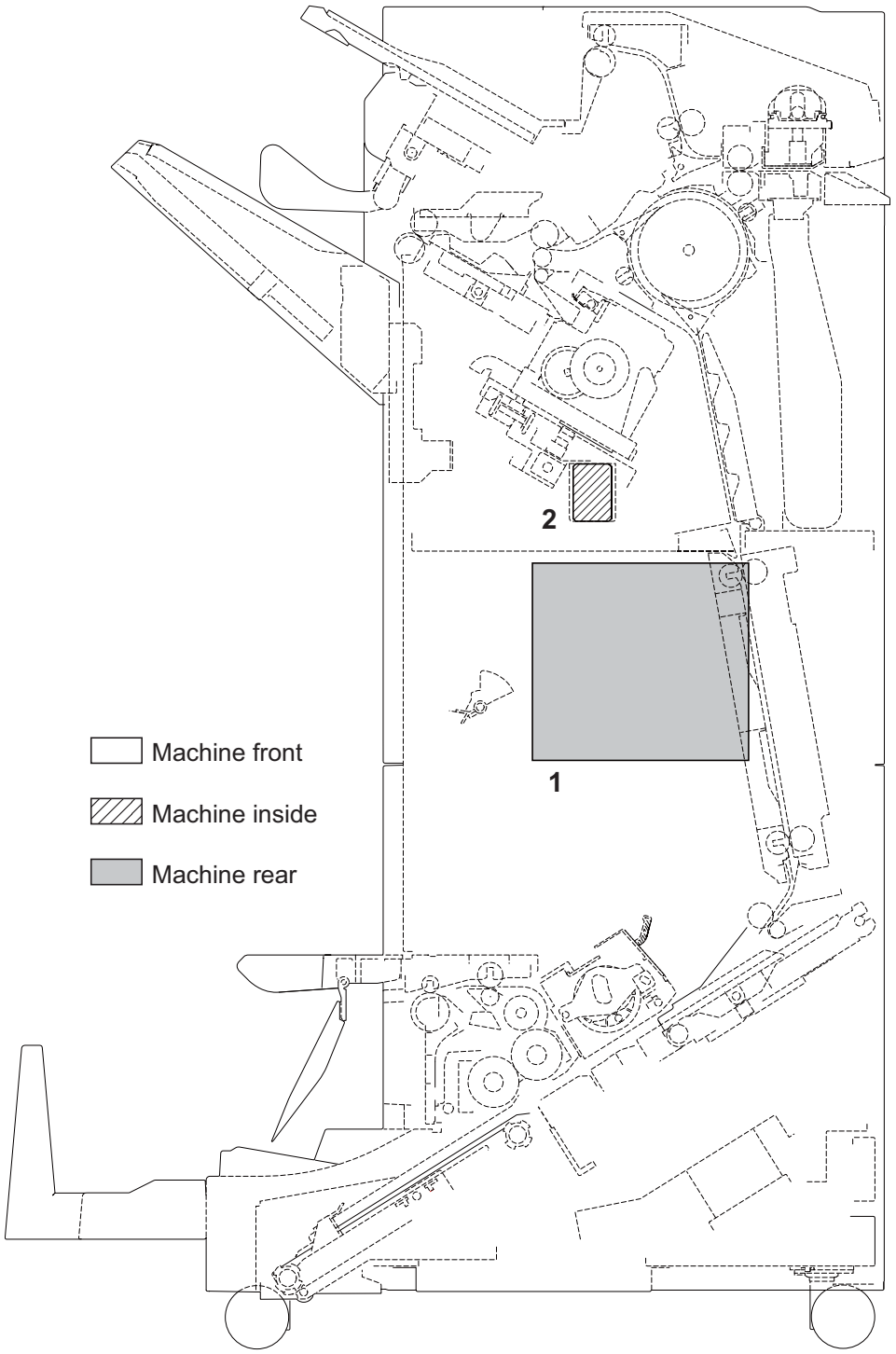

Figure 2-2-1 PWBs

1. DF main PWB (DFMPWB)..... Controls electrical components.
2. Staple relay PWB (STRPWB) ..... Relay the staple unit control signal.

(2) Switches and sensors

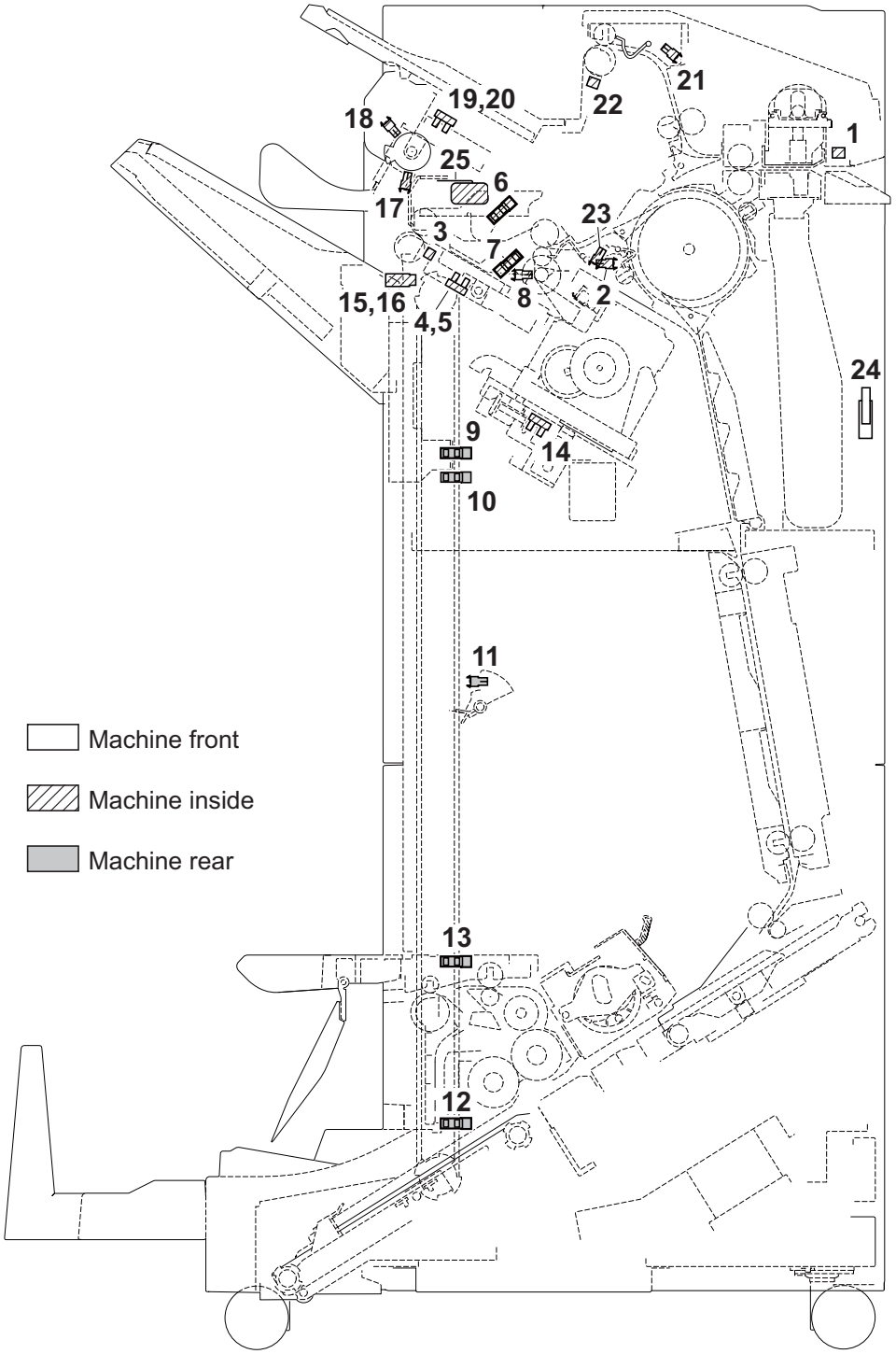

Figure 2-2-2 Switches and sensors

1. DF paper entrance sensor (DFPES)..... Detects a paper misfeed in the entrance section.
2. DF middle sensor (DFMES)..... Detects a paper misfeed in the conveying section.
3. DF eject paper sensor (DFMTS)..... Detects a paper in the eject section.
4. DF side registration sensor 1
   (DFSRS1) ..... Detects the front registration plate in the home position.
5. DF side registration sensor 2
   (DFSRS2) ..... Detects the rear registration plate in the home position.

6. DF adjustment sensor (DFADS) ..... Detects the adjustment unit in the home position.
7. DF bundle discharge unit sensor (DFBDS) ..... Detects the position of the bundle discharge unit.
8. DF paddle sensor (DFPDS) ..... Detects the position of the paddle.
9. DF tray sensor 1 (DFTS1)..... Detects the eject tray reaching the home position.
10. DF tray sensor 2 (DFTS2)..... Detects the eject tray reaching the home position.
11. DF tray sensor 3 (DFTS3)..... Detects the eject tray reaching the middle position.
12. DF tray sensor 4 (DFTS4)..... Detects the eject tray reaching the lower limit.
13. DF tray sensor 5 (DFTS5)..... Detects the eject tray reaching the lower limit.*1
14. DF slide sensor (DFSLS) ..... Detects the slide position of the staple unit.
15. DF tray upper surface sensor 1 (DFTUSS1) ..... Detects upper surface of paper in the DF main tray.
16. DF tray upper surface sensor 2 (DFTUSS2) ..... Detects upper surface of paper in the DF main tray.
17. DF shift set sensor(DFSFSS) ..... Detects the side shift guide in the home position.
18. DF shift release sensor(DFSFRS) ..... Detects the side shift guide in the release position.
19. DF shift sensor1(DFSFS1)..... Detects the front side shift plate in the home position.
20. DF shift sensor2(DFSFS2)..... Detects the rear side shift plate in the home position.
21. DF sub try eject sensor(DFSES)..... Detects ejection of paper to the DF left sub tray.
22. DF sub try full sensor(DFSTFS)..... Detected overflow of ejected to the DF left sub tray.
23. DF drum sensor(DFDRS) ..... Detects a paper in the relief drum section.
24. DF front cover sw (DFFCSW)..... Detects opening/closing of the DF front cover.
25. DF eject cover sw (DFECSW) ..... Detects opening/closing of the DF eject cover.

*1: when optional center-folding unit of the machine is installed.

(3) Motors

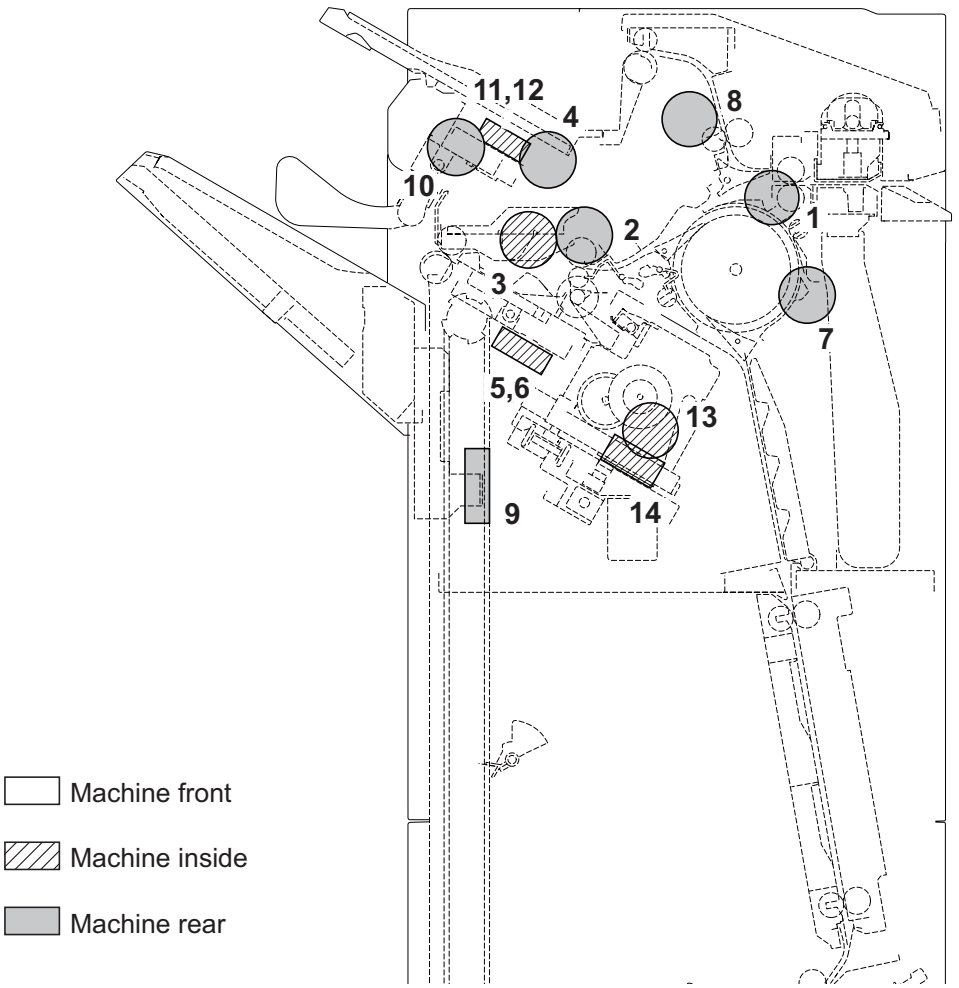

Figure 2-2-3 Motors

1. DF paper entrance motor (DFPEM)..... Drives the paper entrance roller.
2. DF middle motor (DFMM) ..... Drives the middle roller.
3. DF paddle motor (DFPDM) ..... Drives the paddle.
4. DF eject release motor(DFERM) ..... Drives the eject release roller.
5. DF side registration motor 1 (DFSRM1)..... Drives the front registration plate.
6. DF side registration motor 2 (DFSRM2)..... Drives the rear registration plate.
7. DF drum motor (DFDRM) ..... Drives the relief drum.
8. DF eject motor (DFEM)..... Drives the eject roller.
9. DF tray motor (DFTM)..... Raises and lowers the eject tray.
10. DF shift release motor (DFSFRM) ..... Drives the side shift plate.
11. DF shift motor1 (DFSFM1)..... Drives the front side shift plate.
12. DF shift motor2 (DFSFM2)..... Drives the rear side shift plate.
13. DF staple motor (DFSTM)..... Drives the staple.
14. DF slide motor (DFSLM) ..... Drives the staple unit.

(4) Solenoids and clutch

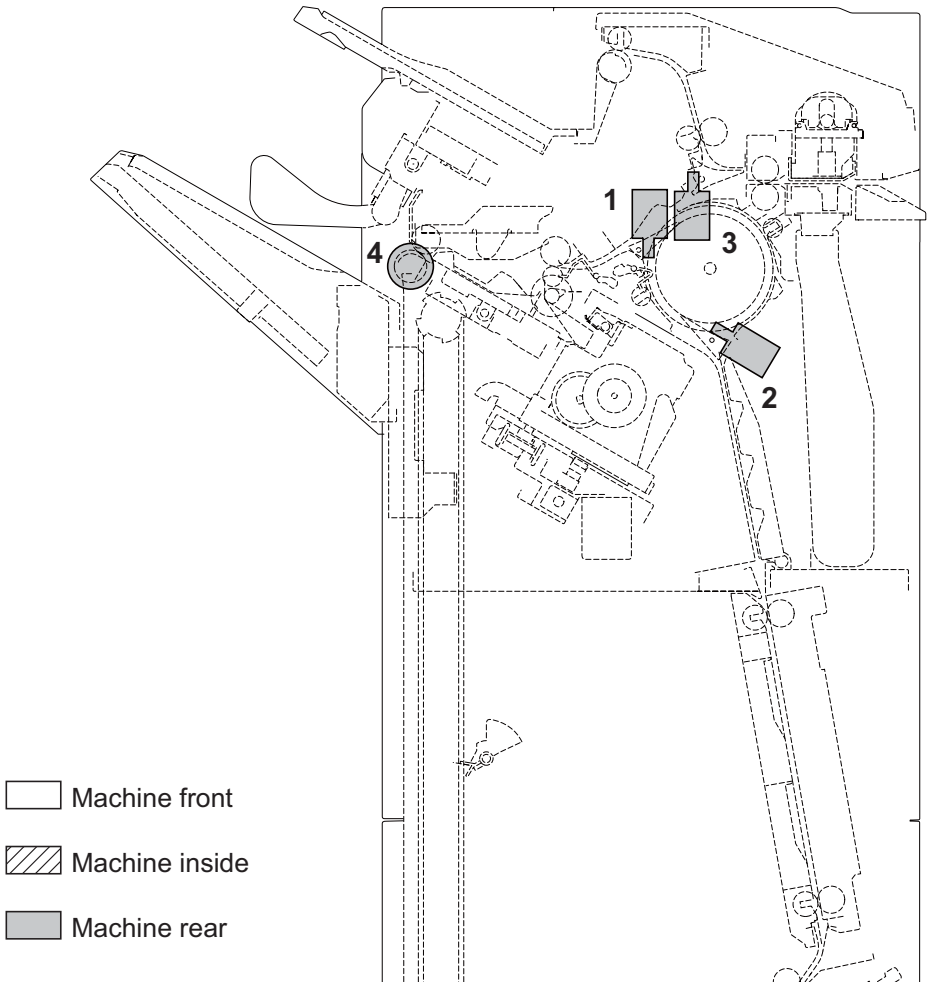

Figure 2-2-4 Solenoids and clutch

1. DF feedshift solenoid 1 (DFDRSOL)..... Operates feedshift guide 1.
2. DF feedshift solenoid 2 (DFCFSOL)..... Operates feedshift guide 2.
3. DF feedshift solenoid 3 (DFFSSOL)..... Operates feedshift guide 3.
4. DF eject clutch (DFECL)..... Drives the eject roller.

(5) Bridge section

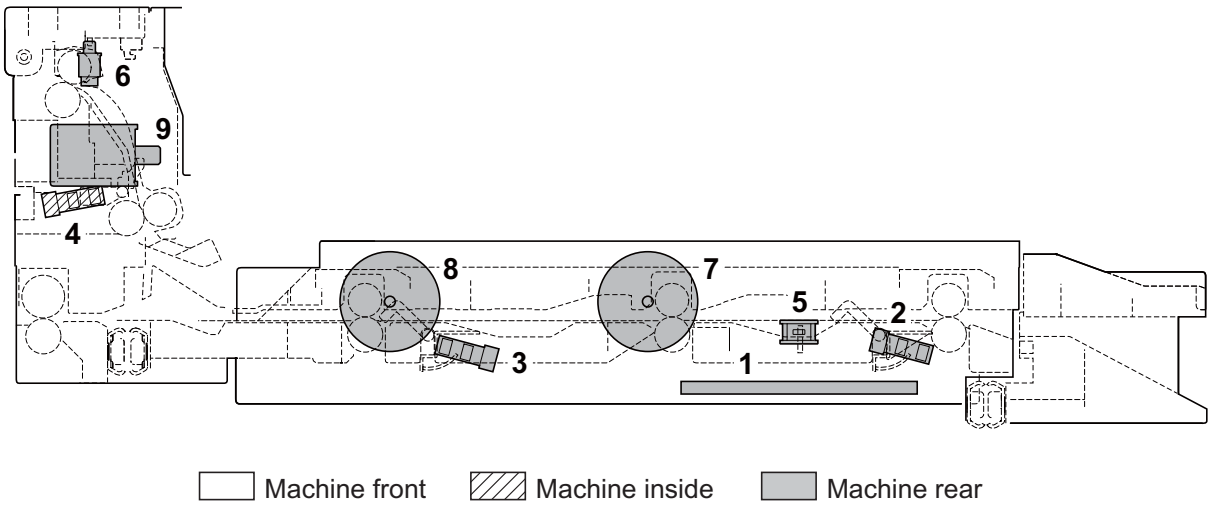

Figure 2-2-5 Bridge section

1. Bridge PWB (BRPWB)..... Controls the paper conveying section.
2. Bridge conveying sensor1 (BRCS1) ..... Detects a paper misfeed in the bridge section.
3. Bridge conveying sensor2 (BRCS2) ..... Detects a paper misfeed in the bridge section
4. Bridge eject sensor (BRES)..... Detects a paper misfeed in the bridge eject section
5. Bridge conveying unit switch
   (BRCUSW)..... Detects opening/closing of the bridge cover.
6. Bridge eject cover switch
   (BRECSW)..... Detects opening/closing of the bridge eject cover.
7. Bridge conveying motor1 (BRCM1) ..... Drives the paper conveying section.
8. Bridge conveying motor2 (BRCM2) ..... Drives the paper conveying section.
9. Bridge solenoid (BRSOL)..... Operates the feedshift guide.

(6) Center-folding unit (option)

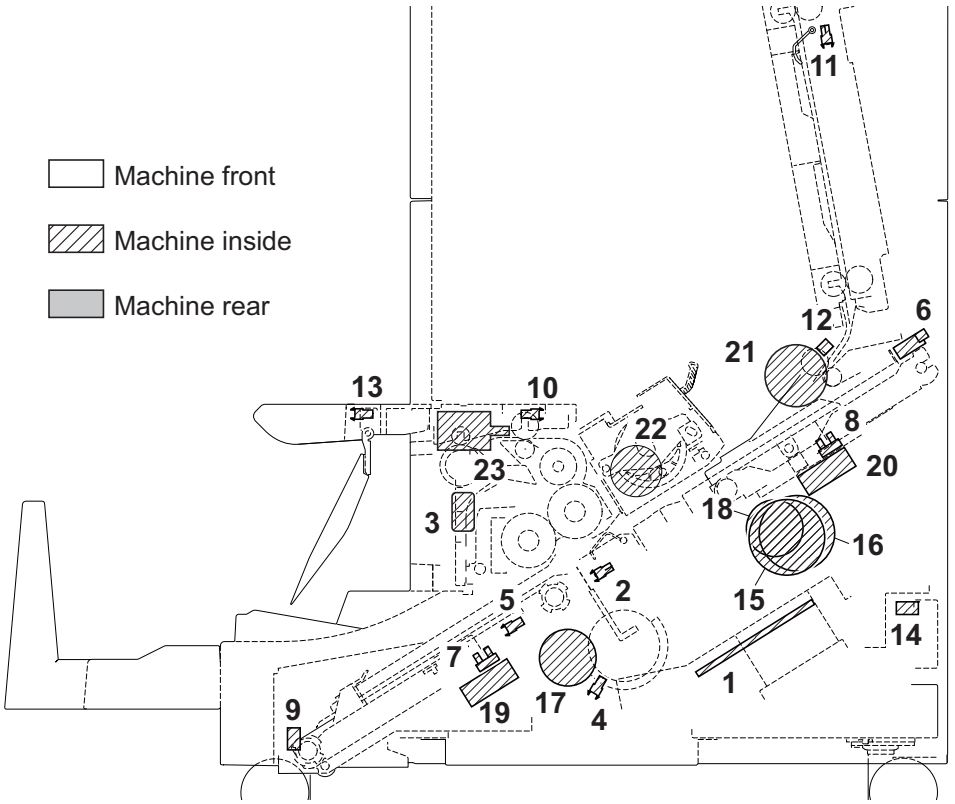

Figure 2-2-6 Center-folding unit

1. CF main PWB (CMPWB) ..... Controls electric components of center-folding unit.
2. CF paper detection sensor(CFPS)..... Detection of paper in the center-folding unit.
3. CF left cover switch (CFLCSW) ..... Detects opening/closing of the CF left cover.
4. CF blade sensor (CFBS)..... Detects home position of the CF blade.
5. CF adjustment sensor 1 (CFADS1) ..... Detects home position of the CF lower sliding plate.
6. CF adjustment sensor 2 (CFADS2) ..... Detects home position of the CF upper sliding plate.
7. CF side registration sensor 1 (CFSRS1) ..... Detects home position of the CF lower side registration guides.
8. CF side registration sensor 2 (CFSRS2) ..... Detects home position of the CF upper side registration guides.
9. CF tray switch (CFTSW) ..... Detects opening/closing of the CF tray.
10. CF eject sensor (CFES)..... Detects ejection of the paper to the CF tray.
11. CF paper conveying sensor (CFPCS) .. Detection of paper in the CF bridge unit.
12. CF paper entry sensor (CFPES)..... Detects insertion of paper in the center-folding unit.
13. CF tray full sensor (CFTFS)..... Drives paper conveying section of the center-folding unit.
14. CF unit set switch (CFSSW) ..... Detects setting of the CF tray.
15. CF main motor (CFMM)..... Drives paper conveying section of the center-folding unit.
16. CF blade motor (CFBM)..... Drives CF blade.
17. CF adjustment motor 1(CFADM1) ..... Drives CF lower sliding plate.
18. CF adjustment motor 2(CFADM2) ..... Drives CF upper sliding plate.
19. CF side registration motor 1 (CFSRM1)..... Drives CF lower side registration guides.
20. CF side registration motor 2 (CFSRM2)..... Drives CF upper side registration guides.
21. CF paper entry motor (CFPEM)..... Drives CF entry roller.
22. CF staple motor (CFSTM)..... Drives the CF staple.
23. CF feedshift solenoid (CFFSSOL) ..... Operates CF feedshift guide.

(7) Mailbox (option)

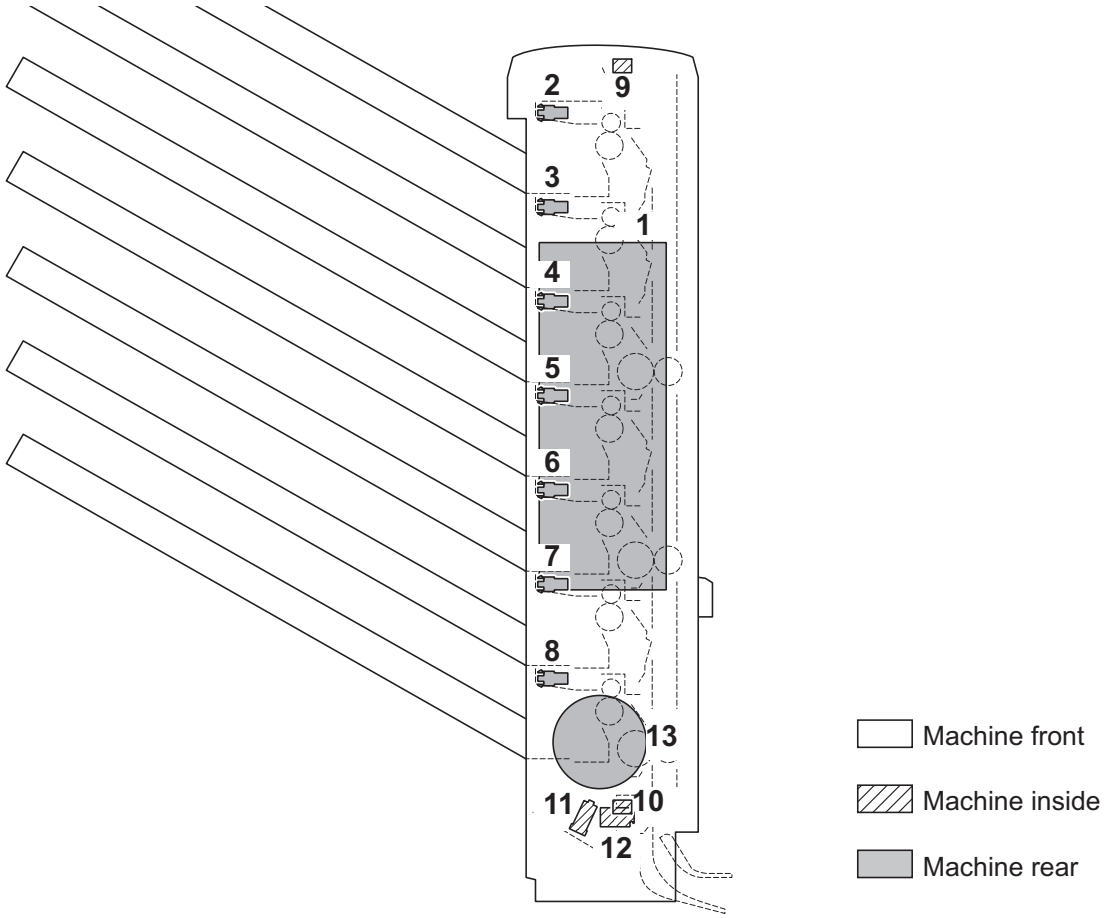

Figure 2-2-7 Mailbox

1. Mailbox main PWB (MBMPWB)..... Controls electric components of mailbox.
2. Tray overflow switch 1 (TOFSW1) ..... Detected overflow of ejected to tray 1.
3. Tray overflow switch 2 (TOFSW2) ..... Detected overflow of ejected to tray 2.
4. Tray overflow switch 3 (TOFSW3) ..... Detected overflow of ejected to tray 3.
5. Tray overflow switch 4 (TOFSW4) ..... Detected overflow of ejected to tray 4.
6. Tray overflow switch 5 (TOFSW5) ..... Detected overflow of ejected to tray 5.
7. Tray overflow switch 6 (TOFSW6) ..... Detected overflow of ejected to tray 6.
8. Tray overflow switch 7 (TOFSW7) ..... Detected overflow of ejected to tray 7.
9. Tray eject sensor (TEJS) ..... Detection of paper jam.
10. Tray eject sensor (TEJS) ..... Radiates the pulse of LED.
11. Mail home position switch (MHPSW).... Controls mailbox drive motor.
12. Mailbox cover open/close switch
    (MCOSW)..... Detects the mailbox cover is open.
13. Mailbox drive motor (MBDM) ..... Drives paper conveying section of mailbox.

(8) Punch unit(Option)

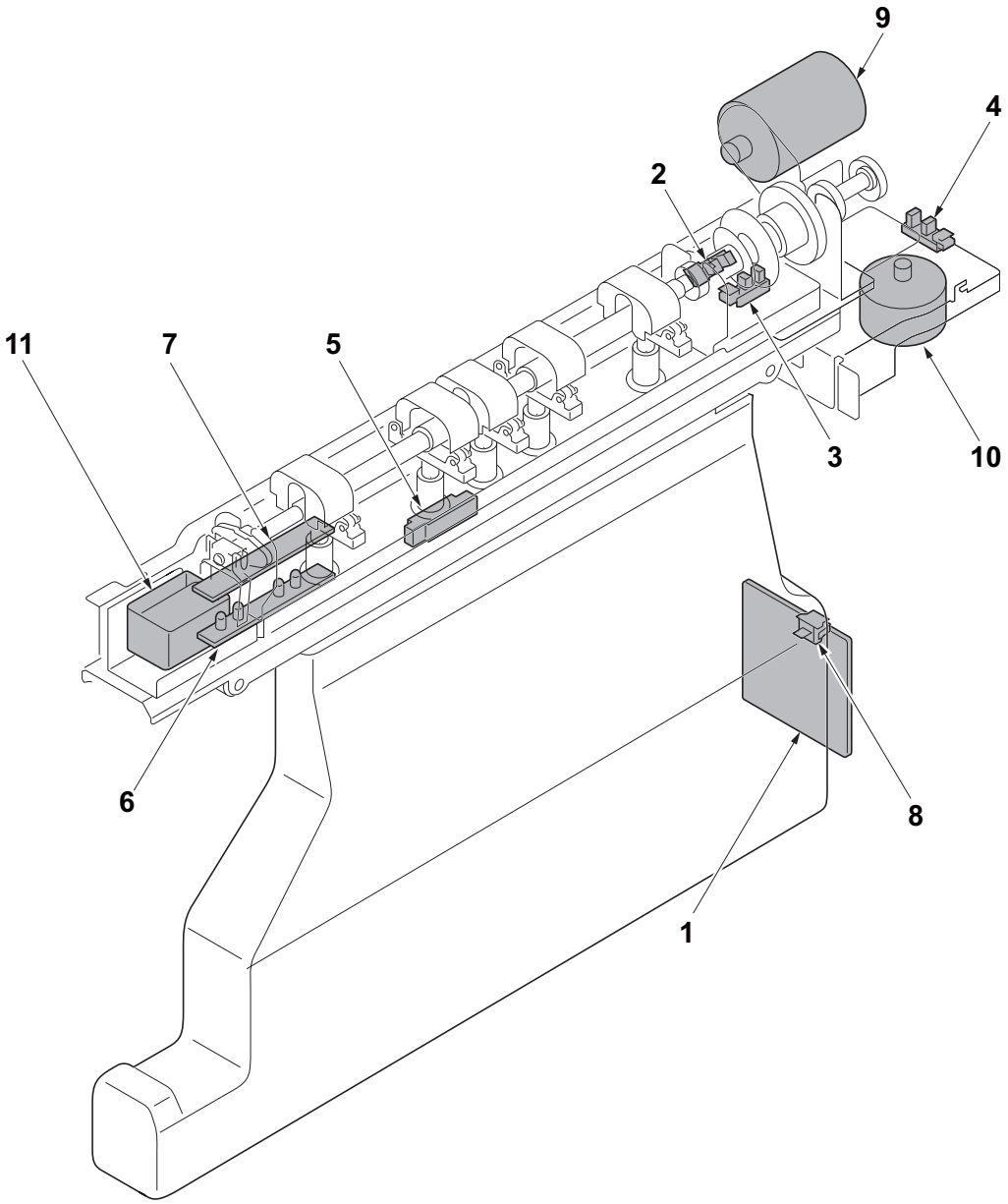

Figure 2-2-8 Bridge section

1. Punch PWB (PUNPWB) ..... Controls electric components of punch unit.
2. Punch home position sensor (PUHPS) ..... Detects home position of the punch cam.
3. Punch pulse sensor (PUPS) ..... Controls the rotation of punch cam.
4. Punch slide sensor (PUSLS) ..... Detects the slide position of the punch unit.
5. Punch tank full sensor (PUTFS) ..... Detects when the punch waste tank is full.
6. Punch paper edge sensor1 (PUPES1) ..... Detects the side edge position of the paper.
7. Punch paper edge sensor2 (PUPES2) ..... Detects the side edge position of the paper.
8. Punch tank set switch (PUTSSW) ..... Detects the punch waste tank is installed.
9. Punch motor (PUM) ..... Drives the punch.
10. Punch slide motor (PUSLM) ..... Drives the punch unit.
11. Punch solenoid (PUSOL)..... Switches the punch position.

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2-3-1 DF maln PWB

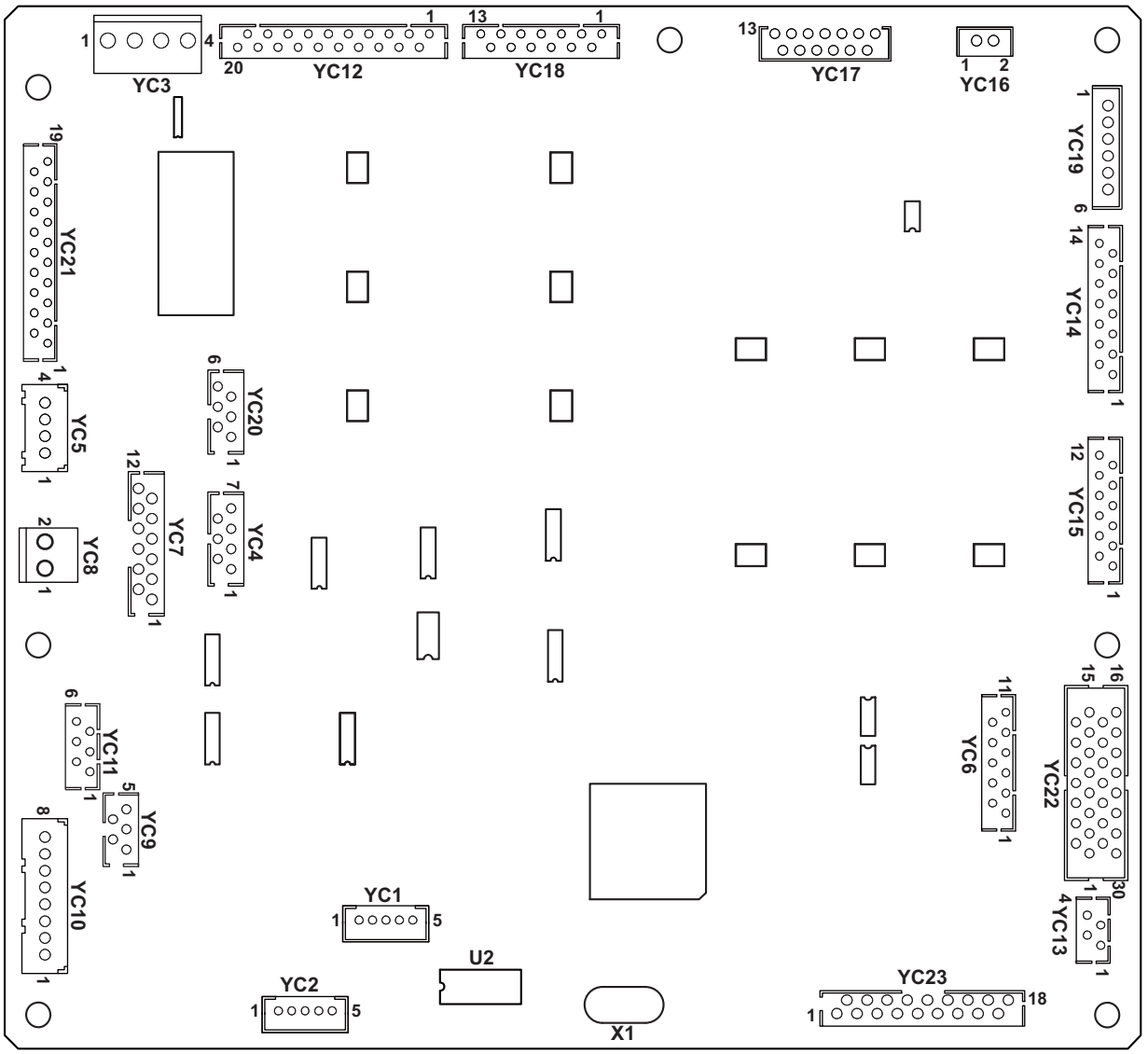

Figure 2-3-1 DF main PWB silk-screen diagram

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC3	1	24V1	O	24 V DC	24 V DC power output to DFFCSW
Connected to the DF front cover sw and DF eject cover sw	2	FRONT COV SIG	I	0/24 V DC	DFFCSW: On/Off
	3	EJECT COV SOURCE	O	24 V DC	24 V DC power output to DFECSW
	4	EJECT COV SIG	I	0/24 V DC	DFECSW: On/Off
YC4	1	GND	-	-	Ground
Connected to machine	2	GND	-	-	Ground
	3	ENG RDY	O	0/3.3 V DC	Ready signal
	4	ENG SEL	I	0/3.3 V DC	Select signal
	5	ENG CLK	I	0/3.3 V DC(pulse)	Serial communication clock signal
	6	ENG DI	I	0/3.3 V DC(pulse)	Serial communication data signal input
	7	ENG DO	O	0/3.3 V DC(pulse)	Serial communication data signal output
YC5	1	GND	-	-	Ground
Connected to machine	2	GND	-	-	Ground
	3	24V1	I	24 V DC	24 V DC power input from Machine
	4	24V1	I	24 V DC	24 V DC power input from Machine
YC6	1	GND	-	-	Ground
Connected to the mailbox main PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	5V	O	5 V DC	5 V DC power output
	5	24V1	O	24 V DC	24 V DC power output
	6	24V1	O	24 V DC	24 V DC power output
	7	MT DO	O	0/5 V DC(pulse)	Serial communication data signal output
	8	MT DIN	I	0/5 V DC(pulse)	Serial communication data signal input
	9	MT CLK	O	0/5 V DC(pulse)	Serial communication clock signal
	10	MT SEL	O	0/5 V DC	Select signal
	11	MT RDY	I	0/5 V DC	Ready signal

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC7	1	5V	O	5 V DC	5 V DC power output
Connected to the punch PWB	2	3.3V	O	3.3 V DC	3.3 V DC power output
	3	3.3V	O	3.3 V DC	3.3 V DC power output
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	PHPES REM	I	0/3.3 V DC	PUPES: On/Off
	7	PHMOT REM	O	0/3.3 V DC	PUM: On/Off
	8	PU RDY	I	0/3.3 V DC	Ready signal
	9	PU SEL	O	0/3.3 V DC	Select signal
	10	PU CLK	O	0/3.3 V DC	Clock signal
	11	PU DI	I	0/3.3 V DC	Serial communication data signal input
	12	PU DO	O	0/3.3 V DC	Serial communication data signal output
YC8	1	GND	-	-	Ground
Connected to the punch PWB	2	24V2	O	24 V DC	24 V DC power output
YC9	1	BF DO	O	0/3.3 V DC	Serial communication data signal output
Connected to the CF main PWB	2	BF DI	I	0/3.3 V DC	Serial communication data signal input
	3	BF CLK	O	0/3.3 V DC	Clock signal
	4	BF SEL	O	0/3.3 V DC	Select signal
	5	BF RDY	I	0/3.3 V DC	Ready signal
YC10	1	3.3V	O	3.3 V DC	3.3 V DC power output
Connected to the CF main PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	5V	O	5 V DC	5 V DC power output
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	24V2	O	24 V DC	24 V DC power output
	8	24V2	O	24 V DC	24 V DC power output

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC12	1	ST MOV MOT 2B	O	0/24 V DC(pulse)	DFSLM control signal
Connected to the DF Staple motor, DF eject motor,DF middle motor,DF paper entrance motor and DF eject release motor	2	ST MOV MOT 1B	O	0/24 V DC(pulse)	DFSLM control signal
	3	ST MOV MOT 2A	O	0/24 V DC(pulse)	DFSLM control signal
	4	ST MOV MOT 1A	O	0/24 V DC(pulse)	DFSLM control signal
	5	EJECT MOT 2B	O	0/24 V DC(pulse)	DFEM control signal
	6	EJECT MOT 1B	O	0/24 V DC(pulse)	DFEM control signal
	7	EJECT MOT 2A	O	0/24 V DC(pulse)	DFEM control signal
	8	EJECT MOT 1A	O	0/24 V DC(pulse)	DFEM control signal
	9	MIDDLE MOT 2B	O	0/24 V DC(pulse)	DFMM control signal
	10	MIDDLE MOT 1B	O	0/24 V DC(pulse)	DFMM control signal
	11	MIDDLE MOT 2A	O	0/24 V DC(pulse)	DFMM control signal
	12	MIDDLE MOT 1A	O	0/24 V DC(pulse)	DFMM control signal
	13	ENTRY MOT 2B	O	0/24 V DC(pulse)	DFPEM control signal
	14	ENTRY MOT 1B	O	0/24 V DC(pulse)	DFPEM control signal
	15	ENTRY MOT 2A	O	0/24 V DC(pulse)	DFPEM control signal
	16	ENTRY MOT 1A	O	0/24 V DC(pulse)	DFPEM control signal
	17	EJE RELS MOT 2B	O	0/24 V DC(pulse)	DFERM control signal
	18	EJE RELS MOT 1B	O	0/24 V DC(pulse)	DFERM control signal
	19	EJE RELS MOT 2A	O	0/24 V DC(pulse)	DFERM control signal
	20	EJE RELS MOT 1A	O	0/24 V DC(pulse)	DFERM control signal
YC13	1	TRY U SENS K	I	0/3.3 V DC	DFTUSS2: On/Off
Connected to the DF tray upper surface sensor 2	2	GND	-	-	Ground
	3	TRY U SENS SIG	I	0/3.3 V DC	DFTUSS2: On/Off
	4	3.3V	O	3.3 V DC	3.3 V DC power output
YC14	1	SFT F MOT 2B	O	0/24 V DC(pulse)	DFSFM1 control signal
Connected to the DF shift sensor1,2,DF eject clutch and DF shift release motor	2	SFT F MOT 1B	O	0/24 V DC(pulse)	DFSFM1 control signal
	3	SFT F MOT 2A	O	0/24 V DC(pulse)	DFSFM1 control signal
	4	SFT F MOT 1A	O	0/24 V DC(pulse)	DFSFM1 control signal
	5	SFT R MOT 2B	O	0/24 V DC(pulse)	DFSFM2 control signal
	6	SFT R MOT 1B	O	0/24 V DC(pulse)	DFSFM2 control signal
	7	SFT R MOT 2A	O	0/24 V DC(pulse)	DFSFM2 control signal
	8	SFT R MOT 1A	O	0/24 V DC(pulse)	DFSFM2 control signal
	9	EJECT CL	O	0/24 V DC	DFECL: On/Off
	10	24V2	I	24 V DC	24 V DC power output
	11	SFT RELS MOT 2B	O	0/24 V DC(pulse)	DFSFRM control signal
	12	SFT RELS MOT 1B	O	0/24 V DC(pulse)	DFSFRM control signal
	13	SFT RELS MOT 2A	O	0/24 V DC(pulse)	DFSFRM control signal

Connector	Pin	Signal	I/O	Voltage	DescrIption
	14	SFT RELS MOT 1A	O	0/24 V DC(pulse)	DFSFRM control signal
YC15	1	PADDLE MOT 2B	O	0/24 V DC(pulse)	DFPDM control signal
Connected to the DF paddle motor and DF side registra-tion motor 1,2	2	PADDLE MOT 1B	O	0/24 V DC(pulse)	DFPDM control signal
	3	PADDLE MOT 2A	O	0/24 V DC(pulse)	DFPDM control signal
	4	PADDLE MOT 1A	O	0/24 V DC(pulse)	DFPDM control signal
	5	SIDE REG R MOT 2B	O	0/24 V DC(pulse)	DFSRM2 control signal
	6	SIDE REG R MOT 1B	O	0/24 V DC(pulse)	DFSRM2 control signal
	7	SIDE REG R MOT 2A	O	0/24 V DC(pulse)	DFSRM2 control signal
	8	SIDE REG R MOT 1A	O	0/24 V DC(pulse)	DFSRM2 control signal
	9	SIDE REG F MOT 2B	O	0/24 V DC(pulse)	DFSRM1 control signal
	10	SIDE REG F MOT 1B	O	0/24 V DC(pulse)	DFSRM1 control signal
	11	SIDE REG F MOT 2A	O	0/24 V DC(pulse)	DFSRM1 control signal
	12	SIDE REG F MOT 1A	O	0/24 V DC(pulse)	DFSRM1 control signal
YC17	1	STP_MOT OUT2	O	0/24 V DC(pulse)	DFSTM control signal
Connected to the staple unit	2	STP_MOT OUT2	O	0/24 V DC(pulse)	DFSTM control signal
	3	STP_MOT OUT2	O	0/24 V DC(pulse)	DFSTM control signal
	4	STP_MOT OUT2	O	0/24 V DC(pulse)	DFSTM control signal
	5	STP_MOT OUT1	O	0/24 V DC(pulse)	DFSTM control signal
	6	STP_MOT OUT1	O	0/24 V DC(pulse)	DFSTM control signal
	7	STP_MOT OUT1	O	0/24 V DC(pulse)	DFSTM control signal
	8	STP_MOT OUT1	O	0/24 V DC(pulse)	DFSTM control signal
	9	GND	-	-	Ground
	10	LS	I	0/5 V DC	Staple unit LS signal
	11	READY	I	0/5 V DC	Staple unit READY signal
	12	5V	O	5 V DC	5 V DC power output
	13	HP	I	0/5 V DC	Staple unit HP signal

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC18	1	DRM MOT 2B	O	0/24 V DC(pulse)	DFDRM control signal
Connected to the DF drum motor and DF Feedshift solenoid 1,2,3	2	DRM MOT 1B	O	0/24 V DC(pulse)	DFDRM control signal
	3	DRM MOT 2A	O	0/24 V DC(pulse)	DFDRM control signal
	4	DRM MOT 1A	O	0/24 V DC(pulse)	DFDRM control signal
	5	24V2	O	24 V DC	24 V DC power output
	6	MID_DRM SOL ACT	O	0/24 V DC	DFDRSOL: On/Off
	7	MID_DRM SOL KEEP	O	0/24 V DC	DFDRSOL: On/Off
	8	24V2	O	24 V DC	24 V DC power output
	9	DRM_BF SOL ACT	O	0/24 V DC	DFCFSOL: On/Off
	10	DRM_BF SOL KEEP	O	0/24 V DC	DFCFSOL: On/Off
	11	24V2	O	24 V DC	24 V DC power output
	12	SUB_MID SOL ACT	O	0/24 V DC	DFFSSOL: On/Off
	13	SUB_MID SOL KEEP	O	0/24 V DC	DFFSSOL: On/Off
YC19	1	BRAKE	O	0/24 V DC	3.3 V DC power output to DFEPS
Connected to the DF tray motor	2	DIR	O	0/24 V DC	3.3 V DC power output to DFSLS
	3	CLK	O	0/24 V DC(pulse)	Ground
	4	ENABLE	I	0/24 V DC	DFSLS: On/Off
	5	GND	-	-	Ground
	6	24V2	O	24 V DC	24 V DC power output
YC20	1	DRM SENS A	O	3.3 V DC	3.3 V DC power output to DFDRS
Connected to the DF drum sensor and DF middle sensor	2	GND	-	-	Ground
	3	DRM SENS SIG	I	0/3.3 V DC	DFDRS: On/Off
	4	MID EJE SENS A	O	3.3 V DC	3.3 V DC power output to DFMES
	5	GND	-	-	Ground
	6	MID EJE SENS SIG	I	0/3.3 V DC	DFMES: On/Off

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC21	1	STRY EJE SENS A	O	3.3 V DC	3.3 V DC power output to DFSES
Connected to the DF sub try eject sensor,DF sub try full sensor,DF paper entrance sensor,DF operation PWB and DF tray upper surface sensor 1	2	GND	-	-	Ground
	3	STRY EJE SENS SIG	I	0/3.3 V DC	DFSES: On/Off
	4	3.3V	O	3.3 V DC	3.3 V DC power output
	5	GND	-	-	Ground
	6	STRY FULL SENS SIG		0/3.3 V DC	DFSTFS: On/Off
	7	STRY FULL SENS PLS			
	8	GND	-	-	Ground
	9	ENTRY SENS SIG	I	0/3.3 V DC	DFPES: On/Off
	10	3.3V	O	3.3 V DC	3.3 V DC power output
	11	LED1	O	0/3.3 V DC	LED output
	12	LED2	O	0/3.3 V DC	LED output
	13	LED3	O	0/3.3 V DC	LED output
	14	LED4	O	0/3.3 V DC	LED output
	15	KEY1	I	0/3.3 V DC	Key input
	16	KEY2	I	0/3.3 V DC	Key input
	17	GND	-	-	Ground
	18	3.3V	O	3.3 V DC	3.3 V DC power output
	19	TRY U SENS K	O	0/3.3 V DC	DFTUSS1: On/Off
YC22	1	MTRY HP1 SENS A	O	3.3 V DC	3.3 V DC power output to DFTS1
Connected to the DF tray sensor 1,2,DF slide sensor,DF side registration sensor 1,2,DF eject paper sensor,DF paddle sensor,DF adjustment sensor,DF bundle discharge unit sensor and DF shift set sensor	2	GND	-	-	Ground
	3	MTRY HP1 SENS SIG	I	0/3.3 V DC	DFTS1: On/Off
	4	STAPLE SENS A	O	3.3 V DC	3.3 V DC power output to DFSLS
	5	GND	-	-	Ground
	6	STAPLE SENS SIG	I	0/3.3 V DC	DFSLS: On/Off
	7	SID REG R SENS A	O	3.3 V DC	3.3 V DC power output to DFSRS2
	8	GND	-	-	Ground
	9	SID REG R SENS SIG	I	0/3.3 V DC	DFSRS2: On/Off
	10	SID REG F SENS A	O	3.3 V DC	3.3 V DC power output to DFSRS1
	11	GND	-	-	Ground
	12	SID REG F SENS SIG	I	0/3.3 V DC	DFSRS1: On/Off
	13	GND	-	-	Ground
	14	PAP SENS SIG	I	0/3.3 V DC	DFMTS: On/Off

Connector	Pin	Signal	I/O	Voltage	DescrIption
	15	3.3V	O	3.3 V DC	3.3 V DC power output
	16	MTRY HP2 SENS A	O	3.3 V DC	3.3 V DC power output to DFTS2
	17	GND	-	-	Ground
	18	MTRY HP2 SENS SIG	I	0/3.3 V DC	DFTS2: On/Off
	19	PADDLE SENS A	O	3.3 V DC	3.3 V DC power output to DFPDS
	20	GND	-	-	Ground
	21	PADDLE SENS SIG	I	0/3.3 V DC	DFPDS: On/Off
	22	ADJUST SENS A	O	3.3 V DC	3.3 V DC power output to DFADS
	23	GND	-	-	Ground
	24	ADJUST SENS SIG	I	0/3.3 V DC	DFADS: On/Off
	25	BUNDLE SENS A	O	3.3 V DC	3.3 V DC power output to DFBDS
	26	GND	-	-	Ground
	27	BUNDLE SENS SIG	I	0/3.3 V DC	DFBDS: On/Off
	28	SFT SET SENS A	O	3.3 V DC	3.3 V DC power output to DFSFSS
	29	GND	-	-	Ground
	30	SFT SET SENS SIG	I	0/3.3 V DC	DFSFSS: On/Off
YC23	1	SFT F HP SENS A	O	3.3 V DC	3.3 V DC power output to DFSFS1
Connected to the DF shift sensor1,2,DF tray sensor 3,4,5 and DF shift release sensor	2	GND	-	-	Ground
	3	SFT F HP SENS SIG	I	0/3.3 V DC	DFSFS1: On/Off
	4	SFT R HP SENS A	O	3.3 V DC	3.3 V DC power output to DFSFS2
	5	GND	-	-	Ground
	6	SFT R HP SENS SIG	I	0/3.3 V DC	DFSFS2: On/Off
	7	MTRY HALF SENS A	O	3.3 V DC	3.3 V DC power output to DFTS3
	8	GND	-	-	Ground
	9	MTRY HALF SENS SIG	I	0/3.3 V DC	DFTS3: On/Off
	10	MTRY BF SENS A	O	3.3 V DC	3.3 V DC power output to DFTS5
	11	GND	-	-	Ground
	12	MTRY BF SENS SIG	I	0/3.3 V DC	DFTS5: On/Off
	13	MTRY FULL SENS A	O	3.3 V DC	3.3 V DC power output to DFTS4
	14	GND	-	-	Ground
	15	MTRY FULL SENS SIG	I	0/3.3 V DC	DFTS4: On/Off
	16	SFT RELS SENS A	O	3.3 V DC	3.3 V DC power output to DFSFRS
	17	GND	-	-	Ground

Connector	Pin	Signal	I/O	Voltage	DescrIption
	18	SFT RELS SENS SIG	I	0/3.3 V DC	DFSFRS: On/Off

2-3-2 CF main PWB

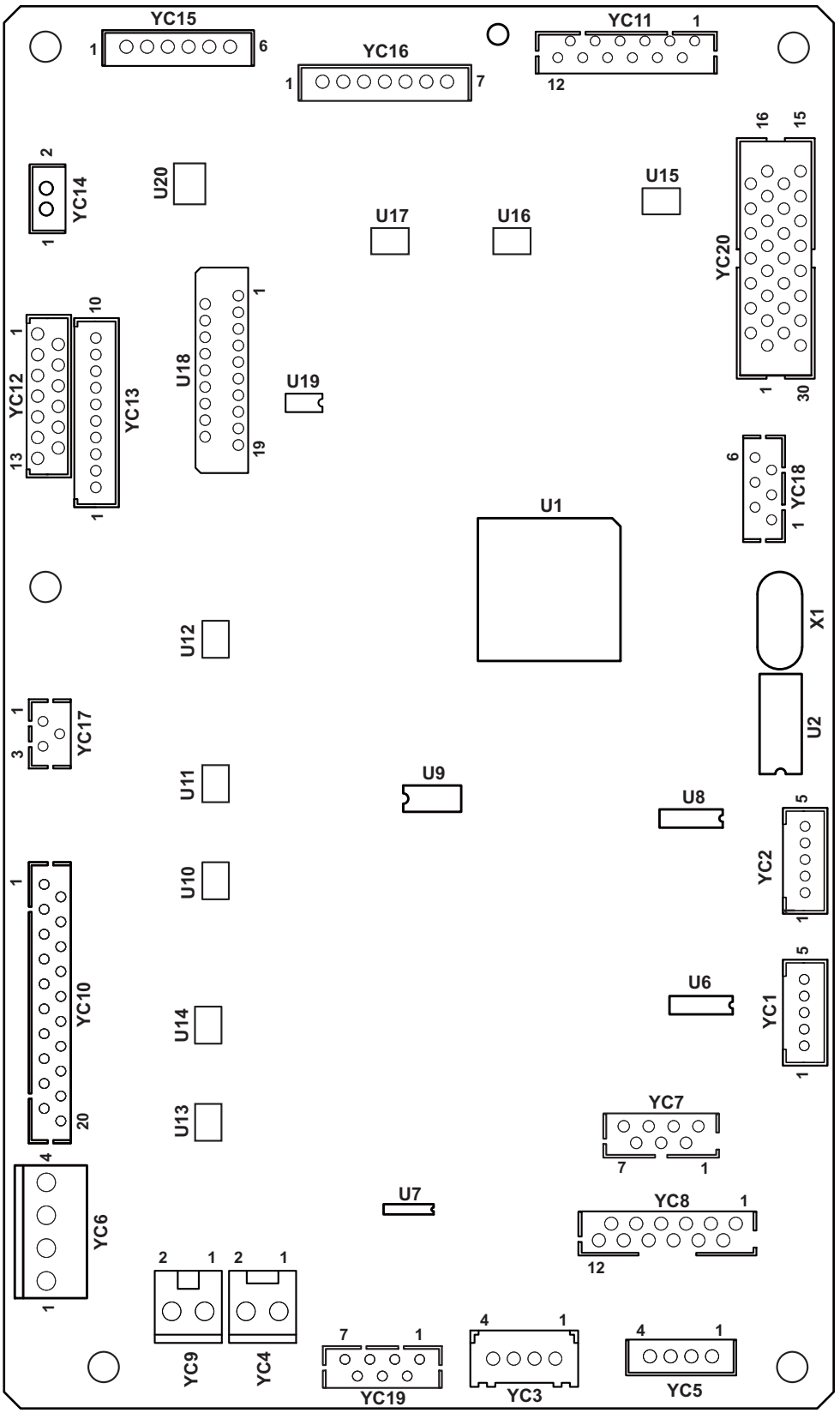

Figure 2-3-2 CF main PWB silk-screen diagram

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC3	1	GND	-	-	Ground
Connected to the DF main PWB	2	GND	-	-	Ground
	3	24V	I	24 V DC	24 V DC power input from Machine
	4	24V	I	24 V DC	24 V DC power input from Machine
YC4	1	24V1	I	24 V DC	24 V DC power input from Machine
Connected to the CF left cover switch	2		I	DC0V/24V	CFLCSW: On/Off
YC5	1	3.3V	I	3.3 V DC	3.3 V DC power input from Machine
Connected to the DF main PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	5V	I	5 V DC	5 V DC power input from Machine
YC6	1	24V	O	24 V DC	24 V DC power output
Connected to the CF unit set switch and CF tray switch	2		I	DC0V/24V	CFSSW: On/Off
	3	24V	O	24 V DC	24 V DC power output
	4		I	DC0V/24V	CFTSW: On/Off
YC7	1	GND	-	-	Ground
Connected to the DF main PWB	2	GND	-	-	Ground
	3	ENG_RDY	I	0/3.3 V DC	Ready signal
	4	ENG_SEL	O	0/3.3 V DC	Select signal
	5	ENG_CLK	O	0/3.3 V DC	Clock signal
	6	ENG_DI	I	0/3.3 V DC	Serial communication data signal input
	7	ENG_DO	O	0/3.3 V DC	Serial communication data signal output
YC10	1	EXTMOT_2B	O	0/24 V DC(pulse)	CFADM2 control signal
Connected to the CF adjustment motor 1,2,CF side registra-tion motor 1,2 and CF paper entry motor	2	EXTMOT_1B	O	0/24 V DC(pulse)	CFADM2 control signal
	3	EXTMOT_2A	O	0/24 V DC(pulse)	CFADM2 control signal
	4	EXTMOT_1A	O	0/24 V DC(pulse)	CFADM2 control signal
	5	MDLMOT_2B	O	0/24 V DC(pulse)	CFSRM2 control signal
	6	MDLMOT_1B	O	0/24 V DC(pulse)	CFSRM2 control signal
	7	MDLMOT_2A	O	0/24 V DC(pulse)	CFSRM2 control signal
	8	MDLMOT_1A	O	0/24 V DC(pulse)	CFSRM2 control signal
	9	CINMOT_2B	O	0/24 V DC(pulse)	CFPEM control signal
	10	CINMOT_1B	O	0/24 V DC(pulse)	CFPEM control signal
	11	CINMOT_2A	O	0/24 V DC(pulse)	CFPEM control signal

Connector	Pin	Signal	I/O	Voltage	DescrIption
	12	CINMOT_1A	O	0/24 V DC(pulse)	CFPEM control signal
	13	EXCMOT_2B	O	0/24 V DC(pulse)	CFADM1 control signal
	14	EXCMOT_1B	O	0/24 V DC(pulse)	CFADM1 control signal
	15	EXCMOT_2A	O	0/24 V DC(pulse)	CFADM1 control signal
	16	EXCMOT_1A	O	0/24 V DC(pulse)	CFADM1 control signal
	17	STMMOT_2B	O	0/24 V DC(pulse)	CFADM2 control signal
	18	STMMOT_1B	O	0/24 V DC(pulse)	CFADM2 control signal
	19	STMMOT_2A	O	0/24 V DC(pulse)	CFADM2 control signal
	20	STMMOT_1A	O	0/24 V DC(pulse)	CFADM2 control signal
YC13	1	5V	O	5 V DC	5 V DC power output
Connected to the CF staple motor	2	STLS2	I	0/5 V DC	Staple unit LS2 signal
	3	GND	-	-	Ground
	4	STLS1	I	0/5 V DC	Staple unit LS1 signal
	5	STHP	I	0/5 V DC	Staple unit HP signal
	6	STMOT_OUT1	O	0/5 V DC(pulse)	CFSTM control signal
	7	STMOT_OUT1	O	0/5 V DC(pulse)	CFSTM control signal
	8	FGND	-	-	Ground
	9	STMOT_OUT2	O	0/5 V DC(pulse)	CFSTM control signal
	10	STMOT_OUT2	O	0/5 V DC(pulse)	CFSTM control signal
YC15	1	FLDMOT_BRK	O	0/24 V DC(pulse)	CFBM control signal
Connected to the CF blade motor	2	FLDMOT_DIR	O	0/24 V DC(pulse)	CFBM control signal
	3	FLDMOT_CLK	O	0/24 V DC(pulse)	CFBM control signal
	4	FLDMOT_EN	O	0/24 V DC(pulse)	CFBM control signal
	5	GND	-	-	Ground
	6	24V2	O	24 V DC	24 V DC power output
YC16	1	FLDMOT_DIR	O	0/24 V DC(pulse)	CFMM control signal
Connected to the CF main motor	2	FLDMOT_ALM	O	0/24 V DC(pulse)	CFMM control signal
	3	FLDMOT_CLK	O	0/24 V DC(pulse)	CFMM control signal
	4	FLDMOT_EN	O	0/24 V DC(pulse)	CFMM control signal
	5	N.C.	-	-	Not used
	6	GND	-	-	Ground
	7	24V2	O	24 V DC	24 V DC power output

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC17	1	24V2	O	24 V DC	24 V DC power output
Connected to the CF feed-shift solenoid	2	3FSOL_ATT	O	24 V DC	CFFSSOL: On/Off(activate)
	3	3FSOL_HLD	O	24 V DC	CFFSSOL: On/Off(return)
YC20	1	5V	O	5 V DC	5 V DC power output
Connected to the CF adjustment sensor 1,2,CF side registration sensor 1,2,CF tray full sensor, CF eject sensor,CF paper conveying sensor, CF paper detection sensor,CF blade sensor and CF paper entry sensor	2	GND	-	-	Ground
	3	BDLFT_HP	I	0/5 V DC	CFADS1: On/Off
	4	5V	O	5 V DC	5 V DC power output
	5	GND	-	-	Ground
	6	WDL_HP	I	0/5 V DC	CFSRS1: On/Off
	7	5V	O	5 V DC	5 V DC power output
	8	GND	-	-	Ground
	9	FULL	I	0/5 V DC	CFTFS: On/Off
	10	5V	O	5 V DC	5 V DC power output
	11	GND	-	-	Ground
	12	OUT	I	0/5 V DC	CFES: On/Off
	13	5V	O	5 V DC	5 V DC power output
	14	GND	-	-	Ground
	15	TRANSPORT	I	0/5 V DC	CFPCS: On/Off
	16	5V	O	5 V DC	5 V DC power output
	17	GND	-	-	Ground
	18	PAPER	I	0/5 V DC	CFPS: On/Off
	19	5V	O	5 V DC	5 V DC power output
	20	GND	-	-	Ground
	21	WDU_HP	I	0/5 V DC	CFSRS2: On/Off
	22	5V	O	5 V DC	5 V DC power output
	23	GND	-	-	Ground
	24	BLD_HP	I	0/5 V DC	CFSRS2: On/Off
	25	GND	-	-	Ground
	26	BULOW_HP	I	0/3.3 V DC	CFADS2: On/Off
	27	3.3V	O	3.3 V DC	3.3 V DC power output
	28	GND	-	-	Ground
	29	CARRY_IN	I	0/3.3 V DC	CFPES: On/Off
	30	3.3V	O	3.3 V DC	3.3 V DC power output

2-3-3 Mailbox main PWB

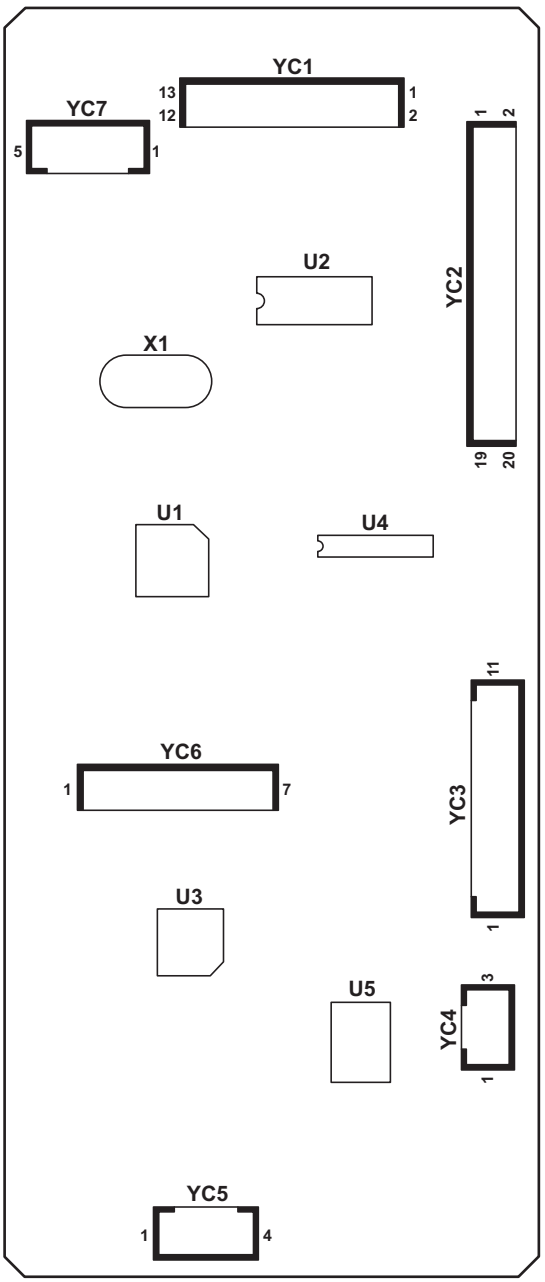

Figure 2-3-3 Mailbox main PWB silk-screen diagram

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC1	1	GND	-	-	Ground
Connected to the tray over-flow switch 1 to 5 and tray eject sensor	2	OFS1	I	0/5 V DC	TOFSW1: On/Off
	3	5V	O	5 V DC	5 V DC power output
	4	GND	-	-	Ground
	5	OFS2	I	0/5 V DC	TOFSW2: On/Off
	6	5V	O	5 V DC	5 V DC power output
	7	GND	-	-	Ground
	8	OFS3	I	0/5 V DC	TOFSW3: On/Off
	9	5V	O	5 V DC	5 V DC power output
	10	GND	-	-	Ground
	11	OFS4	I	0/5 V DC	TOFSW4: On/Off
	12	5V	O	5 V DC	5 V DC power output
	13	GND	-	-	Ground
	14	OFS5	I	0/5 V DC	TOFSW5: On/Off
	15	5V	O	5 V DC	5 V DC power output
	16	LED	O	0/5 V DC	LED signal
	17	GND	-	-	Ground
	18	TEJS	I	5/0 V DC (pulse)	TEJS: Off/On (receiving)
	19	5V	O	5 V DC	5 V DC power output
YC2	1	5V	O	5 V DC	5 V DC power output
Connected to the tray eject sensor, mail home posi-tion switch and tray overflow switch 6/7	2	LED	O	5/0 V DC (pulse)	TEJS (emitting)
	3	GND	-	-	Ground
	4	HP SIG	I	0/5 V DC	MPESW: On/Off
	5	5V	O	5 V DC	5 V DC power output
	6	GND	-	-	Ground
	7	OFS6	I	0/5 V DC	TOFSW6: On/Off
	8	5V	O	5 V DC	5 V DC power output
	9	GND	-	-	Ground
	10	OFS7	I	0/5 V DC	TOFSW7: On/Off
	11	5V	O	5 V DC	5 V DC power output
	12	GND	-	-	Ground
	13	NC	-	-	Not used
	14	5V	O	5 V DC	5 V DC power output

Connector	Pin	Signal	I/O	Voltage	DescrIption
YC3	1	GND	-	-	Ground
Connected to the DF main PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	5V	I	5 V DC	5 V DC power input
	5	24V	I	24 V DC	24 V DC power input
	6	24V	I	24 V DC	24 V DC power input
	7	SDI	I	0/5 V DC (pulse)	Mailbox serial communication data signal
	8	SDO	O	0/5 V DC (pulse)	Mailbox serial communication data signal
	9	SCLK	I	0/5 V DC (pulse)	Mailbox clock signal
	10	SEL	I	0/5 V DC	Mailbox select signal
	11	READY	O	0/5 V DC	Mailbox ready signal
YC4	1	R24V	I	24 V DC	24 V DC power input
Connected to the mailbox cover open/ close switch	3	24V	O	24 V DC	24 V DC power output
YC5	1	MOTOR _A	O	0/24 V DC (pulse)	MBDM drive control signal
Connected to the mailbox drive motor	2	MOTOR A	O	0/24 V DC (pulse)	MBDM drive control signal
	3	MOTOR B	O	0/24 V DC (pulse)	MBDM drive control signal
	4	MOTOR _B	O	0/24 V DC (pulse)	MBDM drive control signal

2-3-4 Bridge PWB

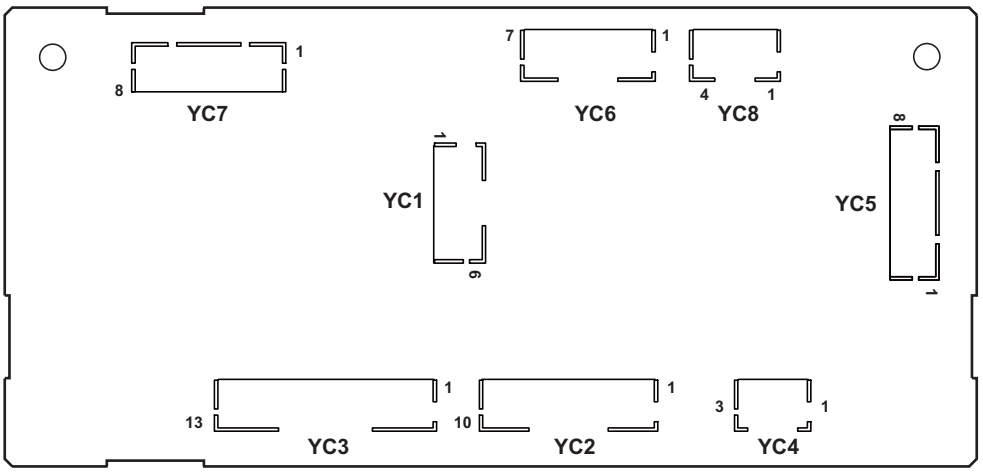

Figure 2-3-4 Bridge PWB silk-screen diagram

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	+24V	I	24V DC	24 V DC power input from machine
Connected to the machine	2	+24V	I	24V DC	24 V DC power input from machine
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	+5V	I	5V DC	5 V DC power input from machine
	6	GND	-	-	Ground
YC3	1	BRIDGE_SENS 1	O	0/5V DC	BRCS1: On/Off
Connected to the machine	2	BRIDGE OPEN	O	0/5V DC	BRCUSW: On/Off
	3	BRIDGE_SENS 2	O	0/5V DC	BRCS2: On/Off
	4	BRIDGE1 DIR	I	0/5V DC	BRCM1 control signal
	5	BRIDGE1 PD	I	0/5V DC	BRCM1 control signal
	6	BRIDGE1 CLK	I	0/5V DC(pulse)	BRCM1 clock signal
	7	BRIDGE1 MODE	I	0/5V DC	BRCM1 mode signal
	8	BRIDGE1 REM	I	0/5V DC	BRCM1: On/Off
	9	BRIDGE2 DIR	I	0/5V DC	BRCM2 control signal
	10	BRIDGE2 PD	I	0/5V DC	BRCM2 control signal
	11	BRIDGE2 CLK	I	0/5V DC(pulse)	BRCM2 clock signal
	12	BRIDGE2 MODE	I	0/5V DC	BRCM2 mode signal
	13	BRIDGE2 REM	I	0/5V DC	BRCM2: On/Off

Connector	Pin	Signal	I/O	Voltage	Description
YC4	1	GND	-	-	Ground
Connected to the bridge conveying sensor 2	2	BRIDGE_SENS 2	I	0/5V DC	BRCM2: On/Off
	3	+5V	O	5V DC	5 V DC power output to BRCS2
YC6	1	GND	-	-	Ground
Connected to the bridge conveying sensor 2 and bridge cover switch	2	BRIDGE_SENS 1	I	0/5V DC	BRCS1: On/Off
	3	+5V	O	5V DC	5 V DC power output to BRCS1
	4	GND	-	-	Ground
	5	BRIDGE_OPEN	I	0/5V DC	BRCUSW: On/Off
	6	+5V	O	5V DC	5 V DC power output to BRCUSW
	7	NC	-	-	Not used
YC7	1	BRIDGE1_B/	O	0/24V DC(pulse)	BRCM1 control signal
Connected to the bridge conveying motor1,2	2	BRIDGE1_A/	O	0/24V DC(pulse)	BRCM1 control signal
	3	BRIDGE1_B	O	0/24V DC(pulse)	BRCM1 control signal
	4	BRIDGE1_A	O	0/24V DC(pulse)	BRCM1 control signal
	5	BRIDGE2_B/	O	0/24V DC(pulse)	BRCM2 control signal
	6	BRIDGE2_A/	O	0/24V DC(pulse)	BRCM2 control signal
	7	BRIDGE2_B	O	0/24V DC(pulse)	BRCM2 control signal
	8	BRIDGE2_A	O	0/24V DC(pulse)	BRCM2 control signal

2-3-5 Punch unit PWB

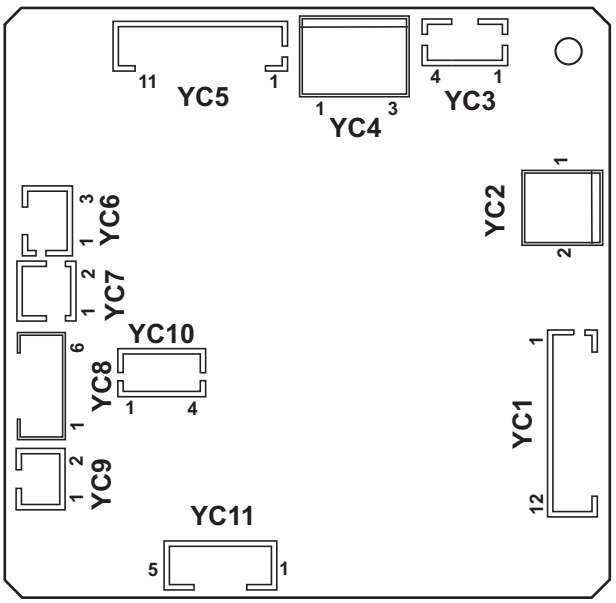

Figure 2-3-5 Punch unit PWB silk-screen diagram

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	PH_SDI	I	0/3.3V DC(pulse)	Serial communication data signal input
Connected to the machine	2	PH_SDO	O	0/3.3V DC(pulse)	Serial communication data signal output
	3	PH_CLK	I	0/3.3V DC(pulse)	Serial communication clock signal
	4	PH_SEL	I	0/3.3V DC	Select signal from the machine
	5	PH_RDY	O	0/3.3V DC	Ready signal to the machine
	6	PHMOT_REQ	I	0/3.3V DC	PUM: On/Off
	7	PHPES_REQ	O	0/3.3V DC	PUPES: On/Off
	8	GND	-	-	Ground
	9	GND	-	-	Ground
	10	3.3V	I	3.3V DC	3.3 V DC power input from machine
	11	3.3V	I	3.3V DC	3.3 V DC power input from machine
	12	5.0V	I	5V DC	3.3 V DC power input from machine
YC2	1	GND	-	-	Ground
Connected to the machine	2	24V2	I	24V DC	24 V DC power input from machine

Connector	Pin	Signal	I/O	Voltage	Description
YC3	1	PHADJ_MOT 2B	O	0/24V DC(pulse)	PUSLM drive control signal
Connected to the punch slide motor	2	PHADJ_MOT 1B	O	0/24V DC(pulse)	PUSLM drive control signal
	3	PHADJ_MOT 2A	O	0/24V DC(pulse)	PUSLM drive control signal
	4	PHADJ_MOT 1A	O	0/24V DC(pulse)	PUSLM drive control signal
YC4	1	PHMOT_N	O	0/24V DC(pulse)	PUM drive control signal
Connected to the punch motor	2	NC	-	-	Not used
	3	PHMOT_P	O	0/24V DC(pulse)	PUM drive control signal
YC5	1	24V2	O	24V DC	24 V DC power output to PUSOL
Connected to the punch solenoid, punch paper edge sensor1 and punch tank full sensor	2	PHSOL_PUL	O	0/24V DC	PUSOL: On/Off (activate)
	3	PHSOL_RET	O	0/24V DC	PUSOL: On/Off (return)
	4	PHLED_A	O	0/3.3V DC	PUPES1_A: On/Off
	5	PHLED_B	O	0/3.3V DC	PUPES1_B: On/Off
	6	PHLED_C	O	0/3.3V DC	PUPES1_C: On/Off
	7	PHLED_D	O	0/3.3V DC	PUPES1_D: On/Off
	8	PHLED_3.3V	O	3.3V DC	3.3 V DC power output to PUPES1
	9	5.0V	O	5V DC	5 V DC power output to PUTFS
	10	PHTNK_FUL	I	0/5V DC	PUTFS: On/Off
	11	GND	-	-	Ground
YC6	1	SEN	O	3.3V DC	3.3 V DC power output to PUSLS
Connected to the punch slide sensor	2	GND	-	-	Ground
	3	PHADJ_HP	I	0/3.3V DC	PUSLS: On/Off
YC7	1	PHPES_DET	I	0/3.3V DC	PUPES2: On/Off
Connected to the punch paper edge sensor 2	2	GND	-	-	Ground
YC8	1	SENS3.3V	O	3.3V DC	3.3 V DC power output to PUPS
Connected to the punch plus sensor and punch home posi-tion sensor	2	GND	-	-	Ground
	3	PHMOT_PLS	I	0/3.3V DC	PUPS: On/Off
	4	SENS3.3V	O	3.3V DC	3.3 V DC power output to PUHPS
	5	GND	-	-	Ground
	6	PHMOT_HP	I	0/3.3V DC	PUHPS: On/Off

Connector	Pin	Signal	I/O	Voltage	Description
YC9	1	PHTNK_SET	I	0/3.3V DC	PUTSSW: On/Off
Connected to the punch tank set switch	2	GND	-	-	Ground

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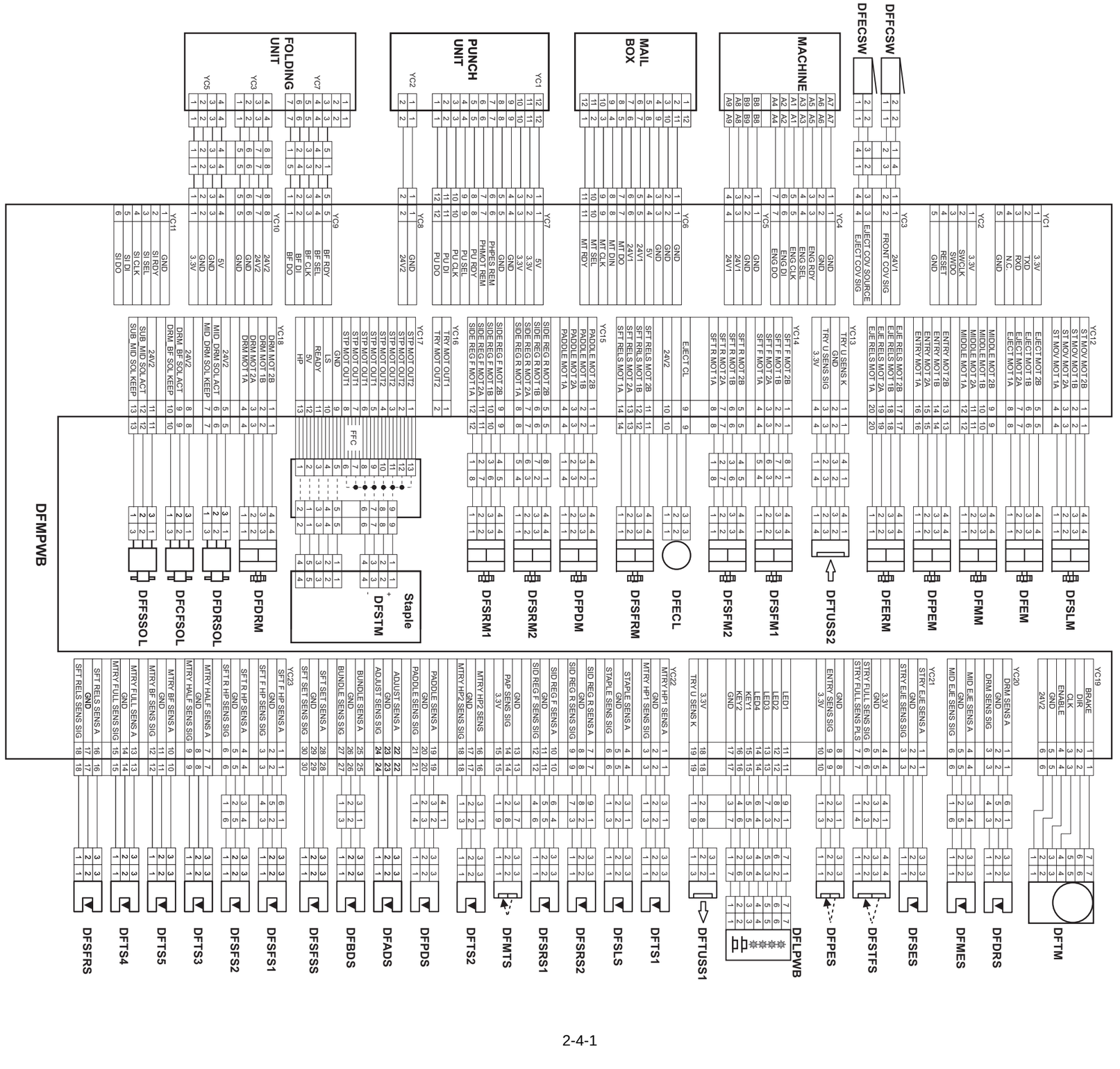
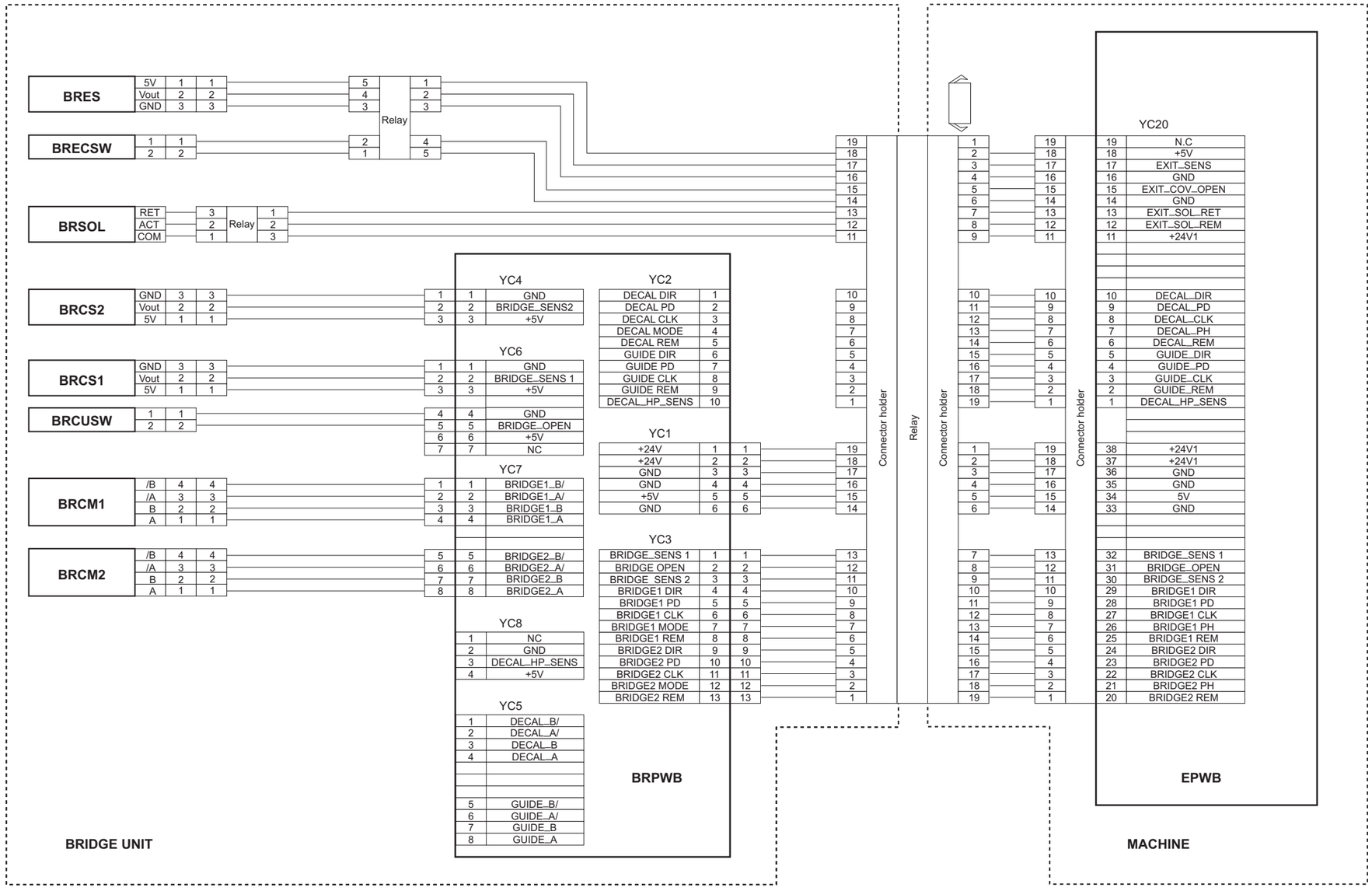
2-4-1 Appendixes

(1) Wiring diagram

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Vout 2 2
GND 3 3
5 1
4 2
3 3
Relay
BRECSW
1 1
2 2
2 4
1 5
BRSOL
RET
ACT
COM
3 1
2 Relay 2
1 3
BRCS2
GND 3 3
Vout 2 2
5V 1 1
YC4
1 1 GND
2 2 BRIDGE_SENS2
3 3 +5V
BRCS1
GND 3 3
Vout 2 2
5V 1 1
YC6
1 1 GND
2 2 BRIDGE_SENS 1
3 3 +5V
BRCUSW
1 1
2 2
4 4 GND
5 5 BRIDGE_OPEN
6 6 +5V
7 7 NC
BRCM1
/B 4 4
/A 3 3
B 2 2
A 1 1
YC7
1 1 BRIDGE1_B/
2 2 BRIDGE1_A/
3 3 BRIDGE1_B
4 4 BRIDGE1_A
BRCM2
/B 4 4
/A 3 3
B 2 2
A 1 1
5 5 BRIDGE2_B/
6 6 BRIDGE2_A/
7 7 BRIDGE2_B
8 8 BRIDGE2_A
YC8
1 NC
2 GND
3 DECAL_HP_SENS
4 +5V
YC5
1 DECAL_B/
2 DECAL_A/
3 DECAL_B
4 DECAL_A
5 GUIDE_B/
6 GUIDE_A/
7 GUIDE_B
8 GUIDE_A
YC2
DECAL DIR 1
DECAL PD 2
DECAL CLK 3
DECAL MODE 4
DECAL REM 5
GUIDE DIR 6
GUIDE PD 7
GUIDE CLK 8
GUIDE REM 9
DECAL_HP_SENS 10
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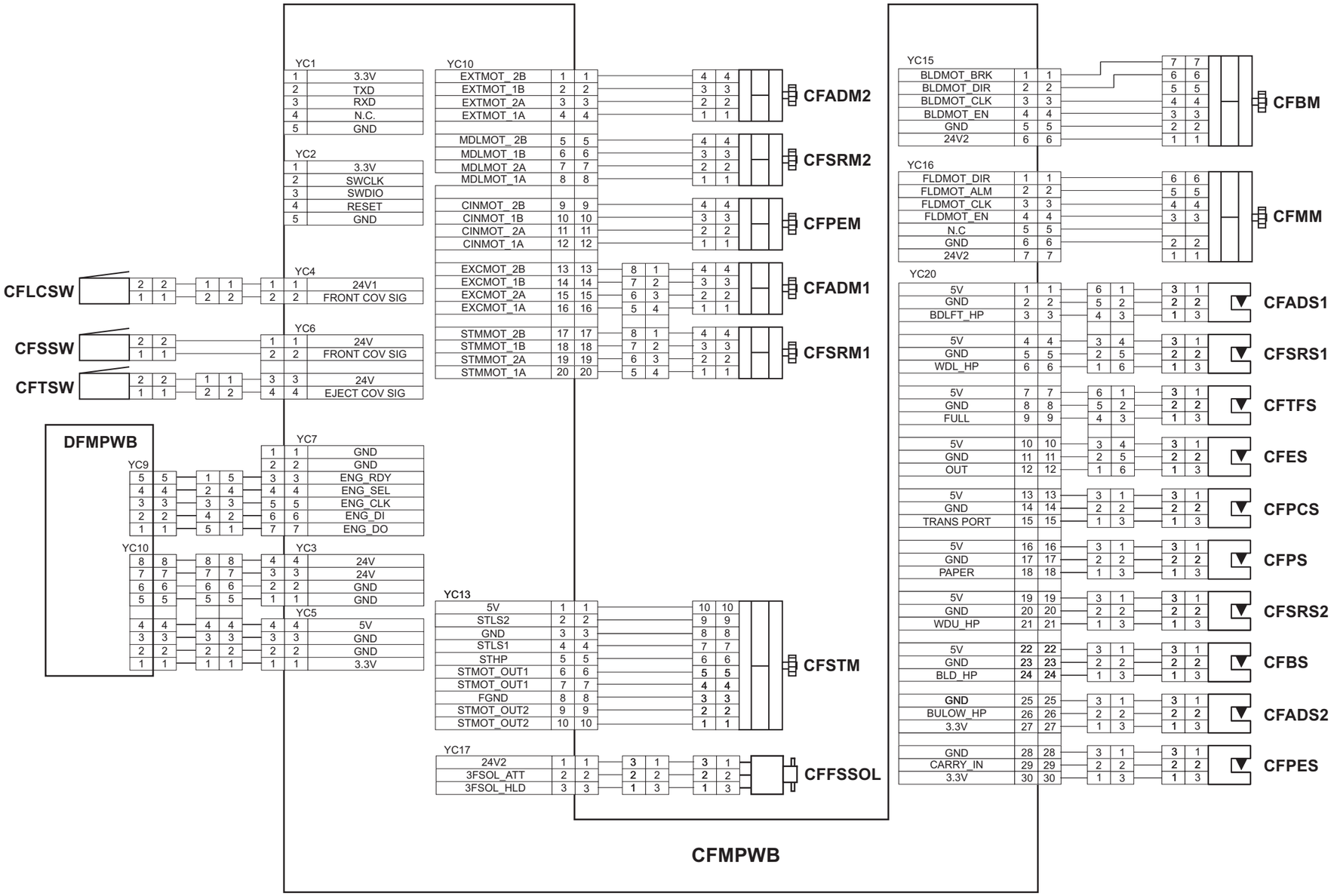
+24V 1 1
+24V 2 2
GND 3 3
GND 4 4
+5V 5 5
GND 6 6
YC3
BRIDGE_SENS 1 1 1
BRIDGE OPEN 2 2
BRIDGE_ SENS 2 3 3
BRIDGE1 DIR 4 4
BRIDGE1 PD 5 5
BRIDGE1 CLK 6 6
BRIDGE1 MODE 7 7
BRIDGE1 REM 8 8
BRIDGE2 DIR 9 9
BRIDGE2 PD 10 10
BRIDGE2 CLK 11 11
BRIDGE2 MODE 12 12
BRIDGE2 REM 13 13
BRPWB
19 18 17 16 15 14 13 12 11
10 9 8 7 6 5 4 3 2 1
19 18 17 16 15 14 13 12 11
Connector holder
Relay
Connector holder
1 2 3 4 5 6 7 8 9
19 18 17 16 15 14 13 12 11
10 11 12 13 14 15 16 17 18 19
10 9 8 7 6 5 4 3 2 1
19 18 17 16 15 14 13 12 11
Connector holder
YC20
19 N.C
18 +5V
17 EXIT_SENS
16 GND
15 EXIT_COV_OPEN
14 GND
13 EXIT_SOL_RET
12 EXIT_SOL_REM
11 +24V1
10 DECAL_DIR
9 DECAL_PD
8 DECAL_CLK
7 DECAL_PH
6 DECAL_REM
5 GUIDE_DIR
4 GUIDE_PD
3 GUIDE_CLK
2 GUIDE_REM
1 DECAL_HP_SENS
38 +24V1
37 +24V1
36 GND
35 GND
34 5V
33 GND
32 BRIDGE_SENS 1
31 BRIDGE_OPEN
30 BRIDGE_SENS 2
29 BRIDGE1 DIR
28 BRIDGE1 PD
27 BRIDGE1 CLK
26 BRIDGE1 PH
25 BRIDGE1 REM
24 BRIDGE2 DIR
23 BRIDGE2 PD
22 BRIDGE2 CLK
21 BRIDGE2 PH
20 BRIDGE2 REM
EPWB
BRIDGE UNIT
MACHINE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2 TXD
3 RXD
4 N.C.
5 GND
YC2
1 3.3V
2 SWCLK
3 SWDIO
4 RESET
5 GND
YC4
1 24V1
2 FRONT COV SIG
YC6
1 24V
2 FRONT COV SIG
3 24V
4 EJECT COV SIG
CFLCSW
CFSSW
CFTSW
YC7
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2 GND
3 ENG_RDY
4 ENG_SEL
5 ENG_CLK
6 ENG_DI
7 ENG_DO
YC9
YC10
YC3
4 24V
3 24V
2 GND
1 GND
YC5
4 5V
3 GND
2 GND
1 3.3V
YC10
EXTMOT_2B
EXTMOT_1B
EXTMOT_2A
EXTMOT_1A
MDLMOT_2B
MDLMOT_1B
MDLMOT_2A
MDLMOT_1A
CINMOT_2B
CINMOT_1B
CINMOT_2A
CINMOT_1A
EXCMOT_2B
EXCMOT_1B
EXCMOT_2A
EXCMOT_1A
STMMOT_2B
STMMOT_1B
STMMOT_2A
STMMOT_1A
CFADM2
CFSRM2
CFPEM
CFADM1
CFSRM1
YC13
5V
STLS2
GND
STLS1
STHP
STMOT_OUT1
STMOT_OUT1
FGND
STMOT_OUT2
STMOT_OUT2
CFSTM
YC17
24V2
3FSOL_ATT
3FSOL_HLD
CFFSSOL
CFMPWB
YC15
BLDMOT_BRK
BLDMOT_DIR
BLDMOT_CLK
BLDMOT_EN
GND
24V2
CFBM
YC16
FLDMOT_DIR
FLDMOT_ALM
FLDMOT_CLK
FLDMOT_EN
N.C
GND
24V2
CFMM
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5V
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CFADS1
5V
GND
WDL_HP
CFSRS1
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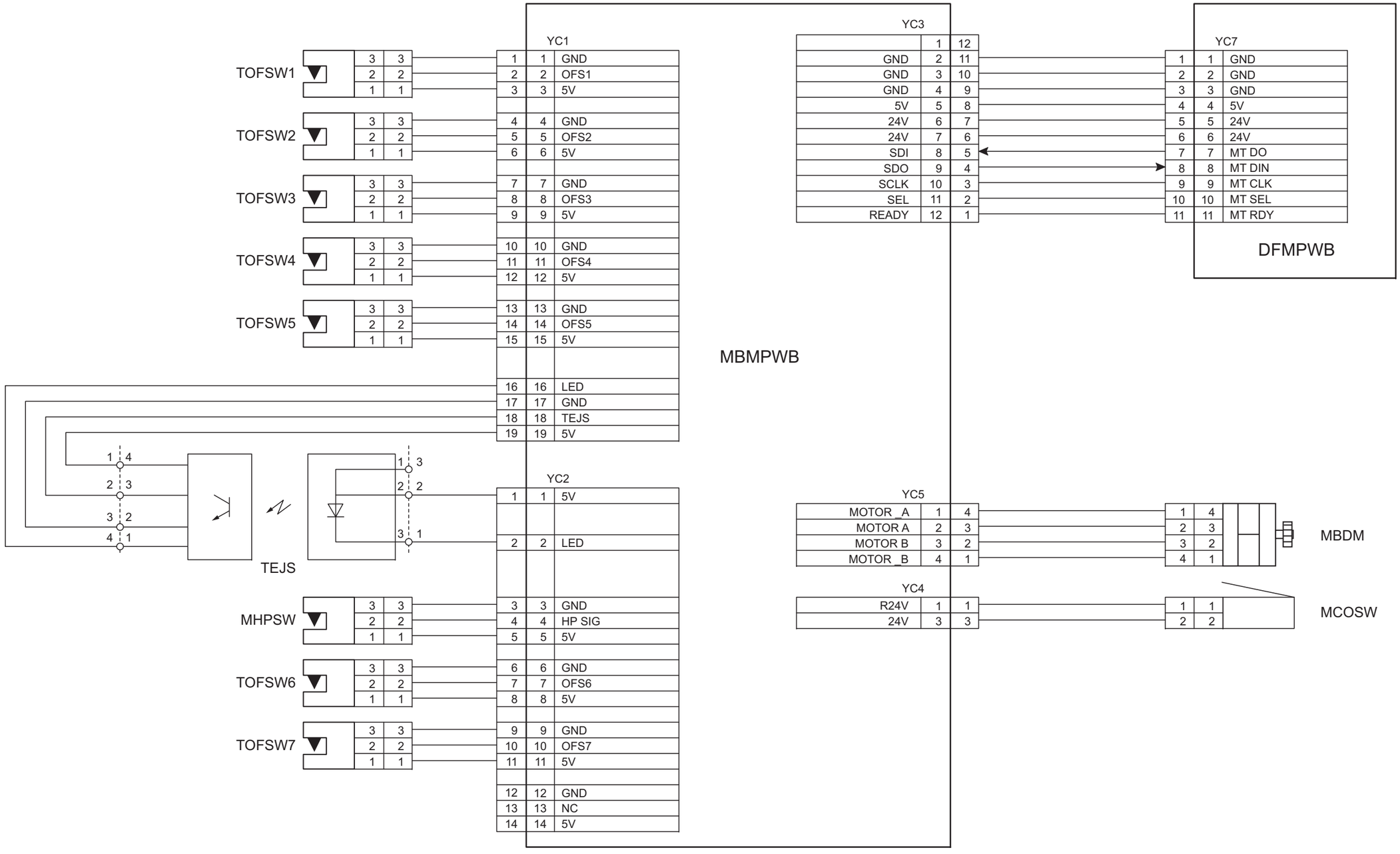
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YC4
YC7
MBMPWB
DFMPWB
MBDM
MCOSW
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2 OFS1
3 5V
4 GND
5 OFS2
6 5V
7 GND
8 OFS3
9 5V
10 GND
11 OFS4
12 5V
13 GND
14 OFS5
15 5V
16 LED
17 GND
18 TEJS
19 5V
1 5V
2 LED
3 GND
4 HP SIG
5 5V
6 GND
7 OFS6
8 5V
9 GND
10 OFS7
11 5V
12 GND
13 NC
14 5V
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GND 2 11
GND 3 10
GND 4 9
5V 5 8
24V 6 7
24V 7 6
SDI 8 5
SDO 9 4
SCLK 10 3
SEL 11 2
READY 12 1
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MOTOR A 2 3
MOTOR B 3 2
MOTOR _B 4 1
R24V 1 1
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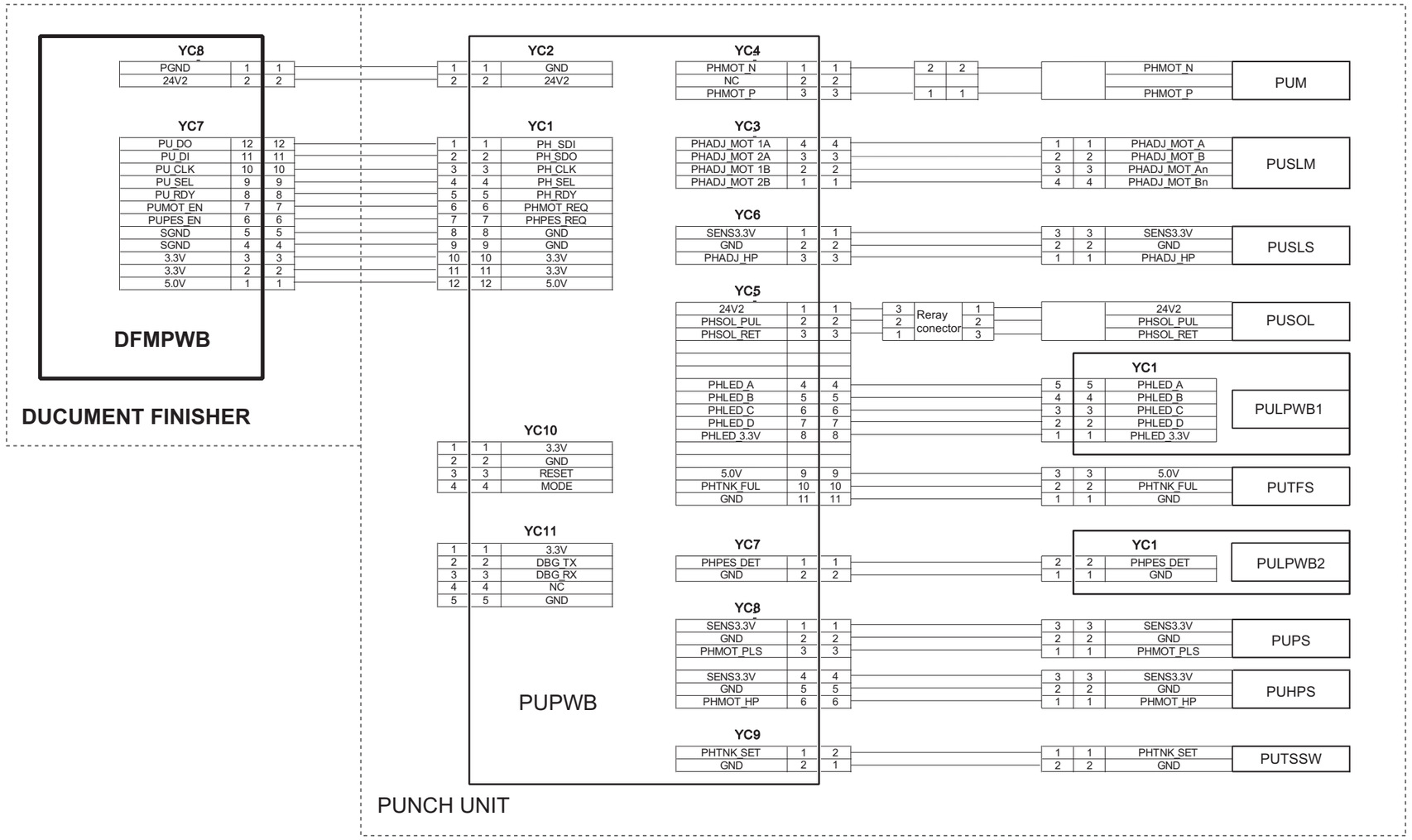
8 MT DIN
9 MT CLK
10 MT SEL
11 MT RDY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PUMOT_EN 7 7
PUPES_EN 6 6
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SGND 4 4
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3.3V 2 2
5.0V 1 1
YC2
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2 2 24V2
YC1
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2 2 PH_SDO
3 3 PH_CLK
4 4 PH_SEL
5 5 PH_RDY
6 6 PHMOT_REQ
7 7 PHPES_REQ
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9 9 GND
10 10 3.3V
11 11 3.3V
12 12 5.0V
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2 2 GND
3 3 RESET
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3 3 DBG_RX
4 4 NC
5 5 GND
PUPWB
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2 2
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PHMOT_P
PUM
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PHADJ_MOT_2A 3 3
PHADJ_MOT_1B 2 2
PHADJ_MOT_2B 1 1
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2 2 PHADJ_MOT_B
3 3 PHADJ_MOT_An
4 4 PHADJ_MOT_Bn
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2 2 GND
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2 2
1 3
Reray conector
24V2
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PHLED_B 5 5
PHLED_C 6 6
PHLED_D 7 7
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YC1
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4 4 PHLED_B
3 3 PHLED_C
2 2 PHLED_D
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GND 11 11
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GND 2 2
YC1
2 2 PHPES_DET
1 1 GND
PULPWB2
YC8
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GND 2 2
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3 3 SENS3.3V
2 2 GND
1 1 PHMOT_PLS
PUPS
SENS3.3V 4 4
GND 5 5
PHMOT_HP 6 6
3 3 SENS3.3V
2 2 GND
1 1 PHMOT_HP
PUHPS
YC9
PHTNK_SET 1 2
GND 2 1
1 1 PHTNK_SET
2 2 GND
PUTSSW
PUNCH UNIT

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